ZTC زنگنه

Hanadi

YÖS
HAZIRLIK
SERİSİ

GEOMETRİ

PUZA
YAYINLARI

www.ztcprep.com

Bu kitabın tüm hakları Puza Eğitim Danışmanlık Yayıncılık Ltd. Şti.'ye aittir. Hangi amaçla olursa olsun, kitabın tamamının veya bir kısmının elektronik, mekanik, fotokopi ya da herhangi bir kayıt sistemiyle çoğaltılması, yayımlanması ve depolanması yasaktır. Bu yasağa uymayanlar gerekli cezai sorumluluğu ve kitabın hazırlanmasındaki mali külfeti peşinen kabullenmiş sayılırlar.

All rights of this publication is reserved and belong to Puza Eğitim Danışmanlık Yayıncılık Ltd. Şti. Upon any terms, thepublication or storage of this book partially or completely via any kind of electronical, mechanical, xerox or record system is prohibited. The ones who do not obey this prohibition consider the related criminal liability and the fiscal burden for the preparation of this book in advance.

Yayın Kurulu ▪ Publishing Board

Uğur PUZA
Kâzım ERDEM
Hatice ALTIN ERDEM

İkinci Baskı ▪ Second Edition

Eylül 2014

Dizgi-Sayfa Tasarımı ▪ Composition-Page Design

Uğur SAÇI

Kapak Tasarımı ▪ Cover Design

Sinan GÜNÇİNER

Baskı ▪ Press

YARDIMCI OFSET
Turgut Özal Blv. Seçim Sk. No:30 06060 Altındağ / ANKARA
Tel: 0312 342 26 27 Gsm: 0532 353 56 52

İsteme Adresi ▪ Ordering Adress

Puza Eğitim Danışmanlık Yayıncılık Ltd. Şti.
Barbaros Mahallesi Güniz Sokak No: 44/1-2 Kavaklıdere - Ankara / Türkiye
Telefon: +90 312 427 31 74 Faks: +90 312 427 31 64
www.puzayayinlari.com

www.ztcprep.com

ZTC زنگنه مجموعه موسسات

ÖNSÖZ

Herhangi bir bilgiyi belleğe sağlıklı olarak yerleştirebilmek için en bilinen ve en çok güvenilen yöntem tekrar yapmaktır. Kısa süreli bellekteki bir bilginin uzun süreli belleğe kaydolup geri çağırımının gerçekleşebilmesi için sistemli tekrar yapmak şarttır. Kitabımızdaki konular bu amaç doğrultusunda soru tiplerine ve özelliklerine göre gruplandırılmıştır. Konuya ait tüm özellikler tek tek ele alınmıştır. Ölçülmek istenen bilgi ile ilgili sorular, farklı açılardan sorularak bilginin pekiştirilmesi sağlanmıştır. Böylece öğrenciler bölümdeki soruların çözülmesi için tüm konunun bitmesini beklemeden öğrenilen soru tiplerinin çözümüne başlayabileceklerdir.

Kitabımızı referans alacak değerli meslektaşlarımız da konunun bitimini beklemeden, konunun anlatılan kısmından öğrencilerine ödev verebileceklerdir. Kitaptaki tüm sorular bilgilerin tümevarım yöntemi ile öğrenilmesi için basit soru tiplerinden karmaşık soru tiplerine adım adım geçiş yapılacak şekilde düzenlenmiştir. Bölüm sonu testlerinde üst düzey analiz gerektiren sorulara yer verilmiştir.

Değerli öğretmenlerimize ve sevgili öğrencilerimize yararlı olması dileğiyle...

FOREWORD

The must confident and well known way to put any kind of information into the memory safely is to repeat. For calling back the recorded information into the long term memory that is actually in the short term memory, systematic repetition is essential. The subjects in our book are classified according to the question types and attributes in parallel to this purpose. All the attributes regarding that topic have been considered one by one respectively.

The questions that are related to the information to be tested, are asked from various points of views to consolidate the information. As a result the students have the chance to start solving questions of all question types directly without waiting for the completion of the chapter for solving the questions. Our colleagues have also chance to give their students homework from the completed part without waiting for the full completion of the related chapter. All questions in the book are organized with the induction method that start with the simpler question types and improve into more complex question types. In the chapter final tests there are also question types that require higher level analysis skills. With our best wishes that this work will be useful to both our teachers and dear students...

Uğur PUZA

www.ztcprep.com

ZTC زنگنه مجموعه موسسات

İÇİNDEKİLER | CONTENTS

Açılar | 1
Angles

Üçgende Açılar | 23
Angles of Triangle

Açı-Kenar Bağıntıları | 53
Angle-Side Relationships

Dik Üçgen | 67
Right Triangle

İkizkenar-Eşkenar Üçgen | 95
Isosceles-Equilateral Triangle

Açıortay | 107
Bisector

Kenarortay | 127
Median

Menelaus-Carnot-Seva-Stewart | 145
Menelaus-Carnot-Ceva-Stewart

Üçgende Benzerlik | 151
Triangle Similarities

Üçgende Alan | 179
Areas of Triangles

Çokgenler | 207
Polygons

Dörtgenler | 227
Quadrilaterals

Paralelkenar | 243
Parallelogram

Eşkenar Dörtgen | 275
Rhombus

Yamuk | 285
Trapezoid

Deltoid | 311
Deltoid

Dikdörtgen | 317
Rectangle

Kare | 333
Square

Çemberde Açı | 347
Circle Theorems - Angles

Çemberde Uzunluk | 369
Circle Theorems - Length

Dairede Alan ve Yay Uzunluğu | 389
Circle Theorems - Area and Circumference

Analitik Geometri | 409
Analytic Geometry - Line

Simetri | 439
Symmetry

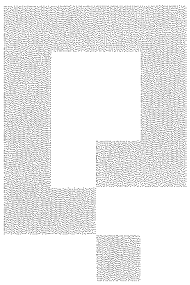
Çember Analitiği | 449
Analytic Geometry - Circle

Katı Cisim | 469
Solid Geometri

Vektörler | 493
Vectors

www.ztcprep.com

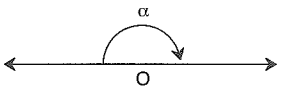
ZTC زنگنه
مجموعه موسسات



AÇILAR
ANGLES

TANIMLAR|Definations

1.

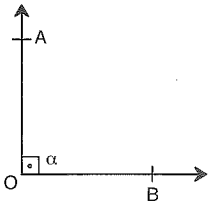


Doğru Açı

Straight Angle

$\Rightarrow \alpha = 180°$

2.



Dik Açı

Right Angle

$[AO] \perp [OB]$

$\Rightarrow \alpha = 90°$

3.

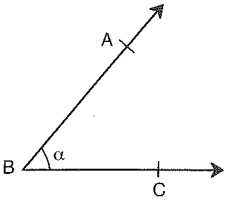


Tüm Açı

Prigon

$\Rightarrow \alpha = 360°$

4.

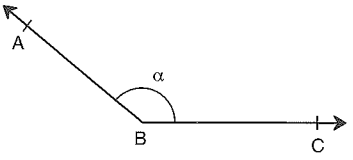


Dar Açı

Acute Angle

$O < \alpha < 90°$

5.

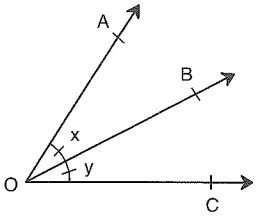


Geniş Açı

Obtuse Angle

$90° < \alpha < 180°$

6.

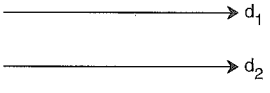


[OB açıortay

[OB bisector

$\Rightarrow x = y$

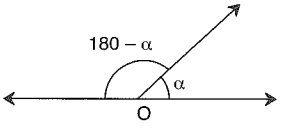
7.



$d_1 // d_2$ Paralel

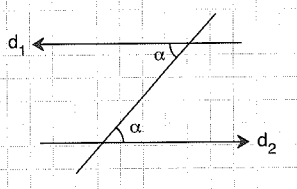
Parallel

8.



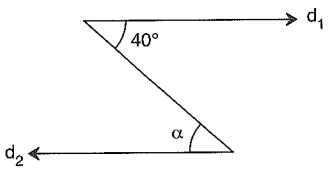
PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

ÖZELLİK|Property 1



$d_1 // d_2$

1.

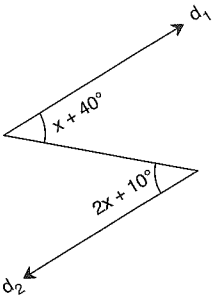


$d_1 // d_2$

$\Rightarrow \alpha = ?$

40

2.

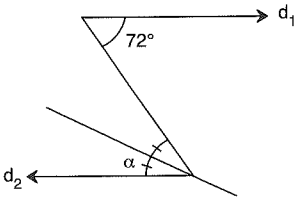


$d_1 // d_2$

$\Rightarrow x = ?$

30

3.

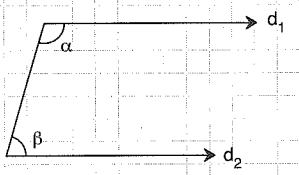


$d_1 // d_2$

$\Rightarrow \alpha = ?$

36

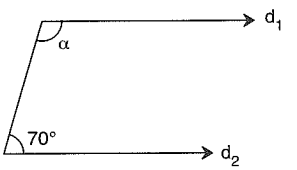
ÖZELLİK|Property 2



$d_1 // d_2$

$\Rightarrow \alpha + \beta = 180°$

1.

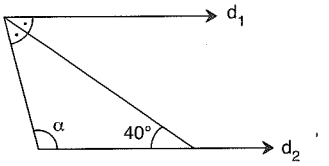


$d_1 // d_2$

$\Rightarrow \alpha = ?$

110

2.

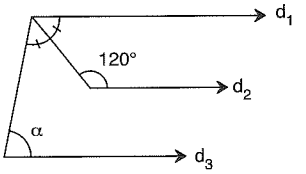


$d_1 // d_2$

$\Rightarrow \alpha = ?$

100

3.



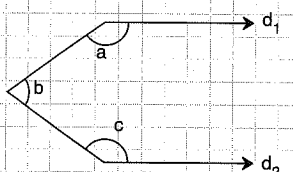
$d_1 // d_2 // d_3$

$\Rightarrow \alpha = ?$

60

PUZA YAYINLARI

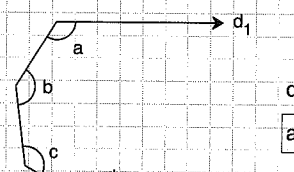
ÖZELLİK|Property 3



$d_1 // d_2$

$a + b + c = 360°$

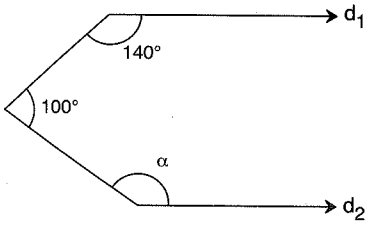
ÖZELLİK|Property 4



$d_1 // d_2$

$a + b + c + d = 540°$

1.

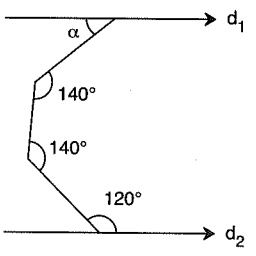


$d_1 // d_2$

$\Rightarrow \alpha = ?$

120

1.

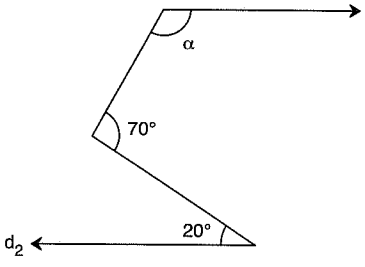


$d_1 // d_2$

$\Rightarrow \alpha = ?$

40

2.

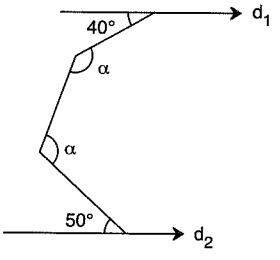


$d_1 // d_2$

$\Rightarrow \alpha = ?$

130

2.

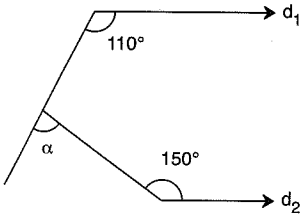


$d_1 // d_2$

$\Rightarrow \alpha = ?$

135

3.

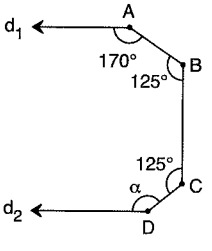


$d_1 // d_2$

$\Rightarrow \alpha = ?$

80

3.



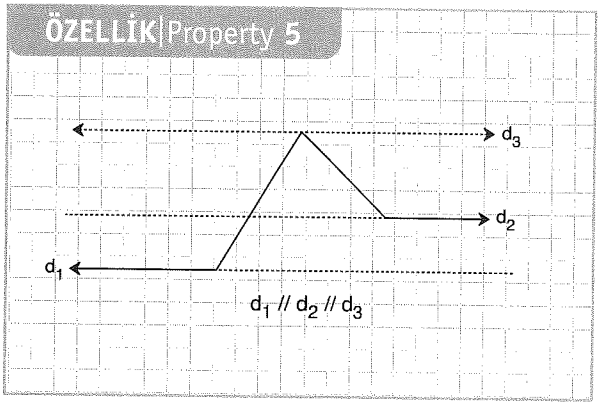
$d_1 // d_2$

$\Rightarrow \alpha = ?$

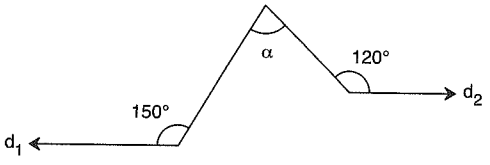
120

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

ÖZELLİK|Property 5



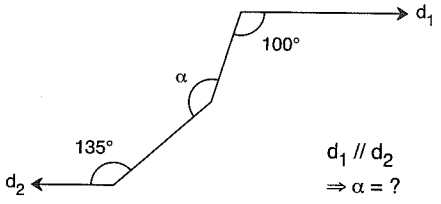
1.



$d_1 // d_2$
$\Rightarrow \alpha = ?$

90

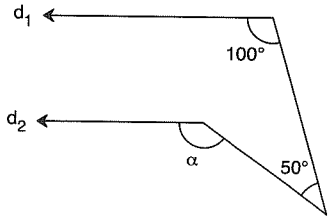
2.



$d_1 // d_2$
$\Rightarrow \alpha = ?$

145

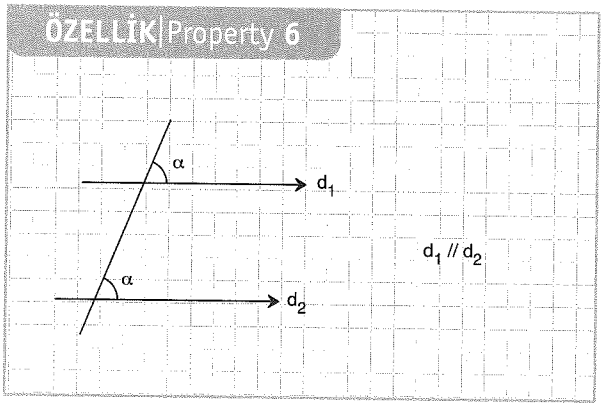
3.



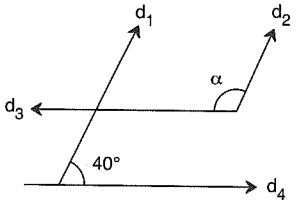
$d_1 // d_2$
$\Rightarrow \alpha = ?$

150

ÖZELLİK|Property 6



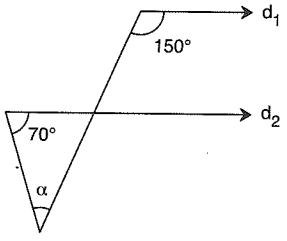
1.



$d_1 // d_2$
$d_3 // d_4$
$\Rightarrow \alpha = ?$

140

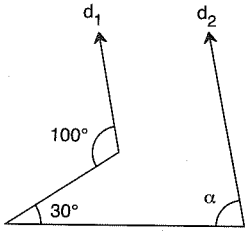
2.



$d_1 // d_2$
$\Rightarrow \alpha = ?$

80

3.

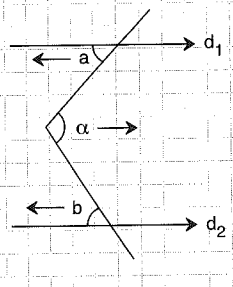


$d_1 // d_2$
$\Rightarrow \alpha = ?$

70

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

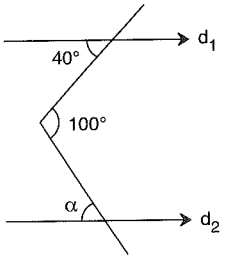
ÖZELLİK | Property 7



$d_1 // d_2$

$\alpha = a + b$

1.

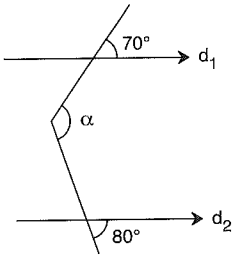


$d_1 // d_2$

$\Rightarrow \alpha = ?$

60

2.

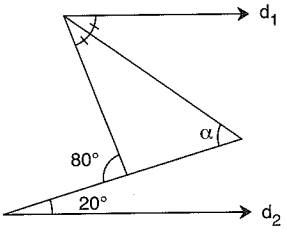


$d_1 // d_2$

$\Rightarrow \alpha = ?$

150

3.

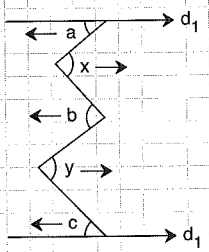


$d_1 // d_2$

$\Rightarrow \alpha = ?$

50

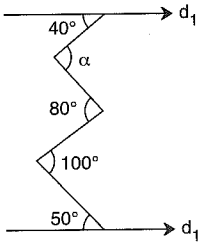
ÖZELLİK | Property 8



$d_1 // d_2$

$a + b + c = x + y$

1.

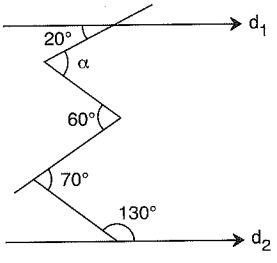


$d_1 // d_2$

$\Rightarrow \alpha = ?$

70

2.

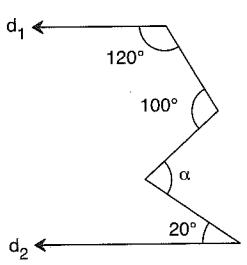


$d_1 // d_2$

$\Rightarrow \alpha = ?$

60

3.



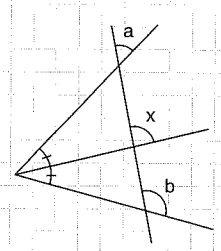
$d_1 // d_2$

$\Rightarrow \alpha = ?$

60

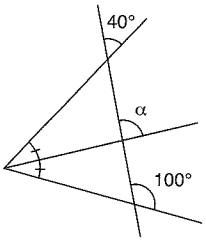
PUZA YAYINLARI

ÖZELLİK | Property 9



$$x = \frac{a+b}{2}$$

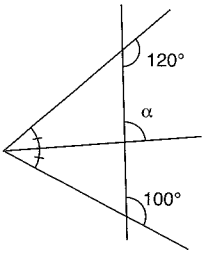
1.



$\Rightarrow \alpha = ?$

70

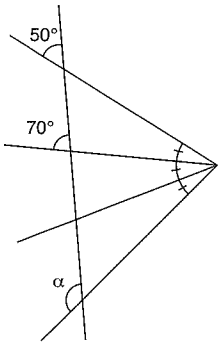
2.



$\Rightarrow \alpha = ?$

80

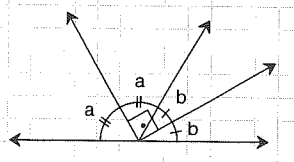
3.



$\Rightarrow \alpha = ?$

110

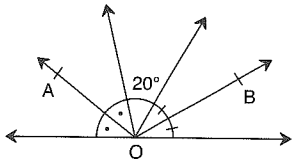
ÖZELLİK | Property 10



$2a + 2b = 180°$

$a + b = 90°$

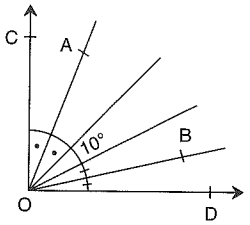
1.



$\Rightarrow m(\widehat{AOB}) = ?$

100

2.

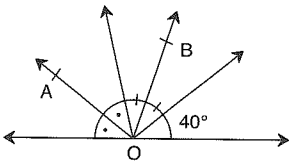


$[CO] \perp [OD]$

$\Rightarrow m(\widehat{AOB}) = ?$

50

3.

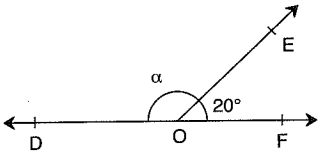


$\Rightarrow m(\widehat{AOB}) = ?$

70

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

1.

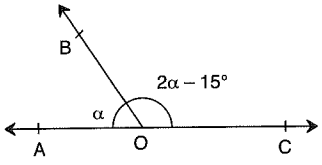


$m(\widehat{EOF}) = 20°$

$\Rightarrow m(\widehat{DOE}) = \alpha = ?$

A) 20 B) 70 C) 120 D) 140 E) 160

2.



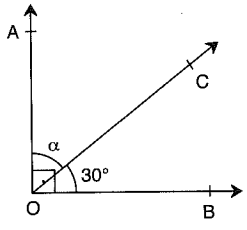
$m(\widehat{AOB}) = \alpha$

$m(\widehat{BOC}) = 2\alpha - 15°$

$\Rightarrow \alpha = ?$

A) 50 B) 55 C) 60 D) 65 E) 75

3.



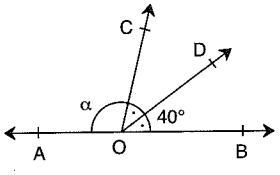
$[OA \perp [OB$

$m(\widehat{COB}) = 30°$

$\Rightarrow m(\widehat{AOC}) = \alpha = ?$

A) 20 B) 30 C) 50 D) 60 E) 150

4.

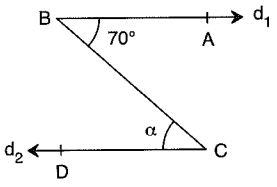


$m(\widehat{COD}) = m(\widehat{DOB}) = 40°$

$\Rightarrow m(\widehat{AOC}) = \alpha = ?$

A) 40 B) 80 C) 90 D) 100 E) 140

5.



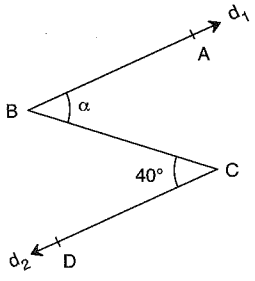
$d_1 // d_2$

$m(\widehat{ABC}) = 70°$

$\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 20 B) 30 C) 70 D) 100 E) 110

6.



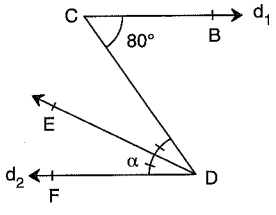
$d_1 // d_2$

$m(\widehat{BCD}) = 40°$

$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 20 B) 40 C) 50 D) 60 E) 140

7.



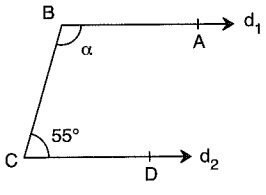
$d_1 // d_2$

$m(\widehat{BCD}) = 80°$

$\Rightarrow m(\widehat{CDE}) = m(\widehat{EDF}) = \alpha = ?$

A) 5 B) 10 C) 40 D) 50 E) 100

8.



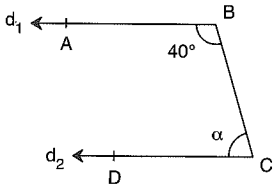
$d_1 // d_2$

$m(\widehat{BCD}) = 55°$

$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 125 B) 115 C) 75 D) 60 E) 55

PUZA YAYINLARI

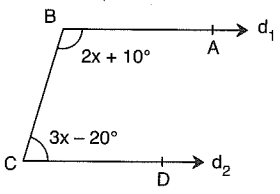
9. 

$d_1 // d_2$

$m(\widehat{ABC}) = 40°$

$\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 40 B) 50 C) 90 D) 130 E) 140

10. 

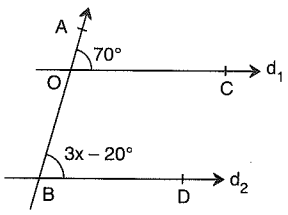
$d_1 // d_2$

$m(\widehat{ABC}) = 2x + 10°$

$m(\widehat{BCD}) = 3x - 20°$

$\Rightarrow x = ?$

A) 30 B) 34 C) 38 D) 40 E) 42

11. 

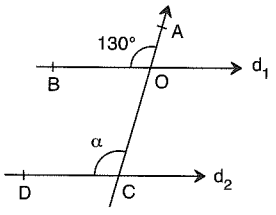
$d_1 // d_2$

$m(\widehat{AOC}) = 70°$

$m(\widehat{ABD}) = 3x - 20°$

$\Rightarrow x = ?$

A) 30 B) 70 C) 80 D) 110 E) 140

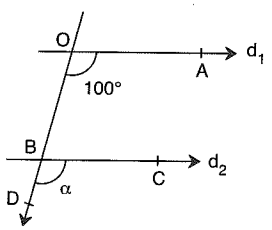
12. 

$d_1 // d_2$

$m(\widehat{AOB}) = 130°$

$\Rightarrow m(\widehat{ACD}) = \alpha = ?$

A) 130 B) 110 C) 100 D) 50 E) 40

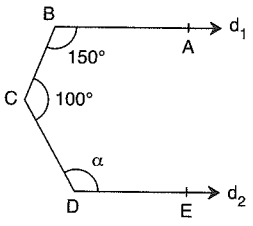
13. 

$d_1 // d_2$

$m(\widehat{AOD}) = 100°$

$\Rightarrow m(\widehat{DBC}) = \alpha = ?$

A) 110 B) 100 C) 80 D) 70 E) 50

14. 

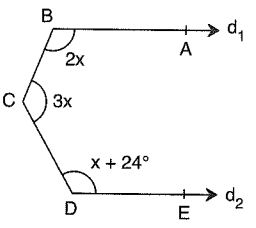
$d_1 // d_2$

$m(\widehat{ABC}) = 150°$

$m(\widehat{BCD}) = 100°$

$\Rightarrow m(\widehat{CDE}) = \alpha = ?$

A) 60 B) 70 C) 100 D) 110 E) 130

15. 

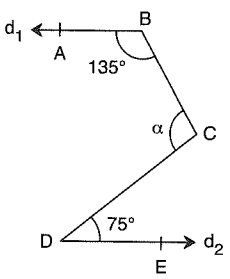
$d_1 // d_2$

$m(\widehat{ABC}) = 2x$

$m(\widehat{CDE}) = x + 24°$

$\Rightarrow m(\widehat{BCD}) = 3x = ?$

A) 56 B) 60 C) 108 D) 168 E) 170

16. 

$d_1 // d_2$

$m(\widehat{ABC}) = 135°$

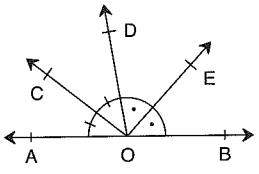
$m(\widehat{CDE}) = 75°$

$\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 75 B) 80 C) 105 D) 120 E) 135

PUZA YAYINLARI

1.



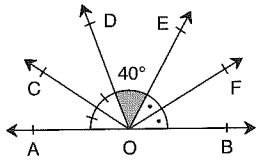
$m(\widehat{AOC}) = m(\widehat{COD})$

$m(\widehat{DOE}) = m(\widehat{EOB})$

$\Rightarrow m(\widehat{COE}) = ?$

A) 30 B) 60 C) 90 D) 120 E) 150

2.



$m(\widehat{AOC}) = m(\widehat{COD})$

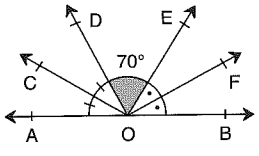
$m(\widehat{DOE}) = 40°$

$m(\widehat{EOF}) = m(\widehat{FOB})$

$\Rightarrow m(\widehat{COF}) = ?$

A) 50 B) 60 C) 100 D) 110 E) 130

3.



$m(\widehat{AOC}) = m(\widehat{COD})$

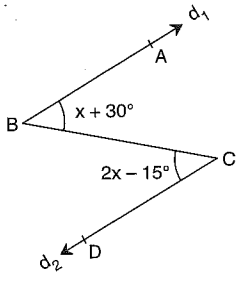
$m(\widehat{DOE}) = 70°$

$m(\widehat{EOF}) = m(\widehat{FOB})$

$\Rightarrow m(\widehat{COF}) = ?$

A) 80 B) 115 C) 125 D) 135 E) 140

4.



$d_1 // d_2$

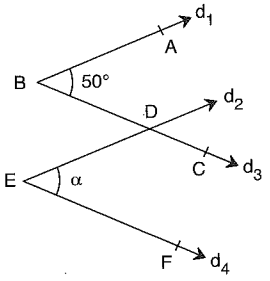
$m(\widehat{ABC}) = x + 30°$

$m(\widehat{BCD}) = 2x - 15°$

$\Rightarrow x = ?$

A) 35 B) 45 C) 50 D) 55 E) 60

5.



$d_1 // d_2$

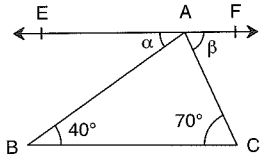
$d_3 // d_4$

$m(\widehat{ABC}) = 50°$

$\Rightarrow m(\widehat{DEF}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 50 E) 70

6.



[EF] // [BC]

$m(\widehat{EAB}) = \alpha$

$m(\widehat{ABC}) = 40°$

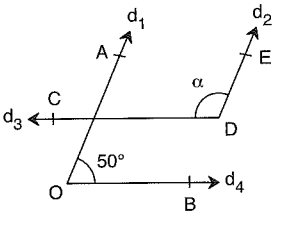
$m(\widehat{FAC}) = \beta$

$m(\widehat{ACB}) = 70°$

$\Rightarrow \beta - \alpha = ?$

A) 30 B) 40 C) 50 D) 60 E) 70

7.



$d_1 // d_2$

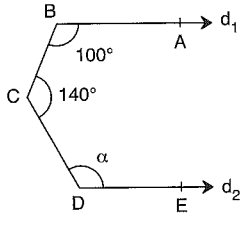
$d_3 // d_4$

$m(\widehat{AOB}) = 50°$

$\Rightarrow m(\widehat{EDC}) = \alpha = ?$

A) 130 B) 100 C) 60 D) 50 E) 40

8.



$d_1 // d_2$

$m(\widehat{ABC}) = 100°$

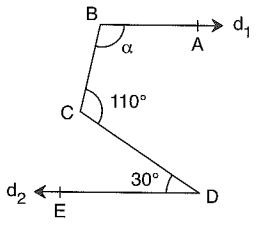
$m(\widehat{BCD}) = 140°$

$\Rightarrow m(\widehat{CDE}) = \alpha = ?$

A) 100 B) 110 C) 120 D) 130 E) 140

PUZA YAYINLARI

9.



$d_1 // d_2$

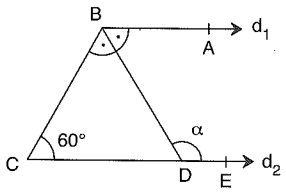
$m(\widehat{BCD}) = 110°$

$m(\widehat{CDE}) = 30°$

$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 90 B) 100 C) 120 D) 130 E) 140

10.



$d_1 // d_2$

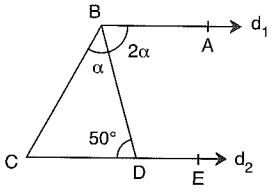
$m(\widehat{ABD}) = m(\widehat{CDB})$

$m(\widehat{BCD}) = 60°$

$\Rightarrow m(\widehat{BDE}) = \alpha = ?$

A) 100 B) 110 C) 120 D) 130 E) 140

11.



$d_1 // d_2$

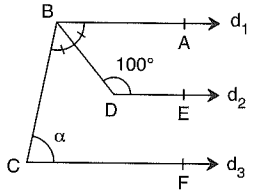
$m(\widehat{ABD}) = 2 \cdot m(\widehat{CBD})$

$m(\widehat{BDC}) = 50°$

$\Rightarrow m(\widehat{BCD}) = ?$

A) 30 B) 50 C) 75 D) 105 E) 115

12.



$d_1 // d_2 // d_3$

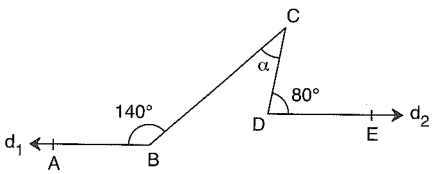
$m(\widehat{ABD}) = m(\widehat{DBC})$

$m(\widehat{BDE}) = 100°$

$\Rightarrow m(\widehat{BCF}) = \alpha = ?$

A) 10 B) 20 C) 30 D) 40 E) 50

13.



$d_1 // d_2$

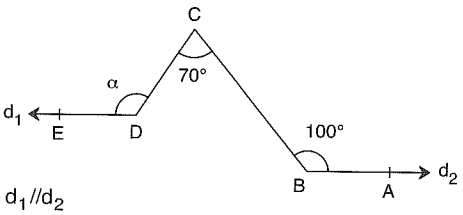
$m(\widehat{ABC}) = 140°$

$m(\widehat{CDE}) = 80°$

$\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 30 B) 40 C) 50 D) 60 E) 70

14.



$d_1 // d_2$

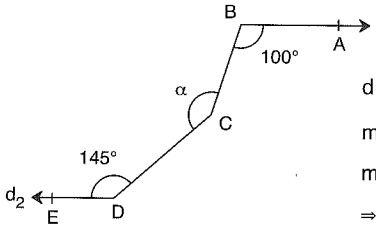
$m(\widehat{ABC}) = 100°$

$m(\widehat{BCD}) = 70°$

$\Rightarrow m(\widehat{CDE}) = \alpha = ?$

A) 150 B) 120 C) 110 D) 100 E) 90

15.



$d_1 // d_2$

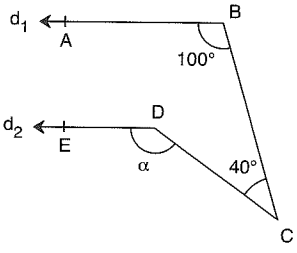
$m(\widehat{ABC}) = 100°$

$m(\widehat{CDE}) = 145°$

$\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 155 B) 145 C) 135 D) 125 E) 115

16.



$d_1 // d_2$

$m(\widehat{ABC}) = 100°$

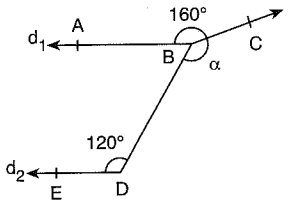
$m(\widehat{BCD}) = 40°$

$\Rightarrow m(\widehat{EDC}) = \alpha = ?$

A) 40 B) 70 C) 100 D) 130 E) 140

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

1.



$d_1 \parallel d_2$

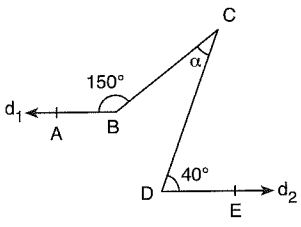
$m(\widehat{ABC}) = 160°$

$m(\widehat{EDB}) = 120°$

$\Rightarrow m(\widehat{DBC}) = \alpha = ?$

A) 100 B) 110 C) 120 D) 140 E) 150

2.



$d_1 \parallel d_2$

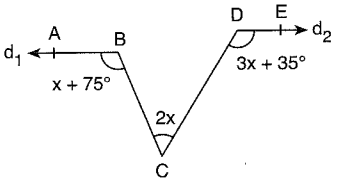
$m(\widehat{ABC}) = 150°$

$m(\widehat{CDE}) = 40°$

$\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 10 B) 20 C) 30 D) 40 E) 50

3.



$d_1 \parallel d_2$

$m(\widehat{ABC}) = x + 75°$

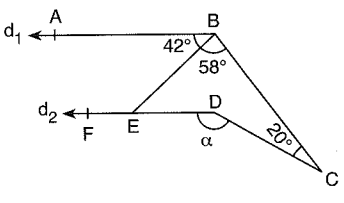
$m(\widehat{BCD}) = 2x$

$m(\widehat{CDE}) = 3x + 35°$

$\Rightarrow x = ?$

A) 20 B) 25 C) 30 D) 35 E) 40

4.



$d_1 \parallel d_2$

$m(\widehat{ABE}) = 42°$

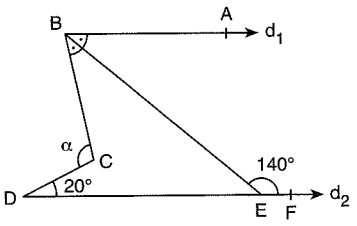
$m(\widehat{EBC}) = 58°$

$m(\widehat{BCD}) = 20°$

$\Rightarrow m(\widehat{FDC}) = \alpha = ?$

A) 130 B) 124 C) 120 D) 116 E) 110

5.



$d_1 \parallel d_2$

$m(\widehat{ABE}) = m(\widehat{CBE})$

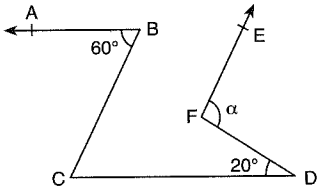
$m(\widehat{CDF}) = 20°$

$m(\widehat{BEF}) = 140°$

$\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 70 B) 80 C) 85 D) 90 E) 100

6.



[BC] // [FE]

[BA] // [CD]

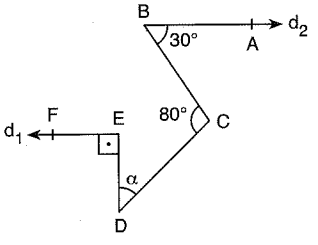
$m(\widehat{ABC}) = 60°$

$m(\widehat{CDF}) = 20°$

$\Rightarrow m(\widehat{DFE}) = \alpha = ?$

A) 40 B) 50 C) 80 D) 100 E) 120

7.



$d_1 \parallel d_2$

$[DE] \perp [EF]$

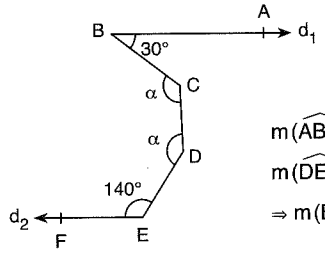
$m(\widehat{ABC}) = 30°$

$m(\widehat{BCD}) = 80°$

$\Rightarrow m(\widehat{CDE}) = \alpha = ?$

A) 30 B) 40 C) 50 D) 60 E) 70

8.



$d_1 \parallel d_2$

$m(\widehat{ABC}) = 30°$

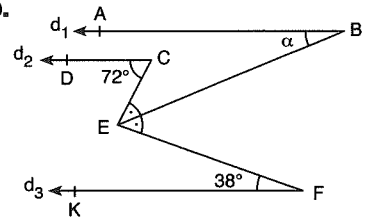
$m(\widehat{DEF}) = 140°$

$\Rightarrow m(\widehat{BCD}) = m(\widehat{CDE}) = \alpha = ?$

A) 130 B) 125 C) 120 D) 115 E) 110

PUZA YAYINLARI

9.



$d_1 \parallel d_2 \parallel d_3$

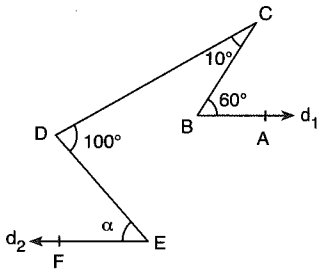
$m(\widehat{DCE}) = 72°$

$m(\widehat{EFK}) = 38°$

$\Rightarrow m(\widehat{ABE}) = \alpha = ?$

A) 12 B) 15 C) 17 D) 19 E) 21

10.



$d_1 \parallel d_2$

$m(\widehat{ABC}) = 60°$

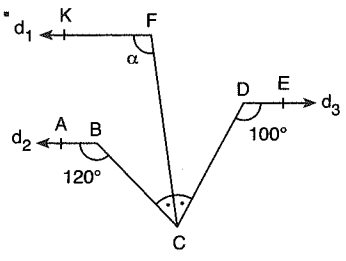
$m(\widehat{BCD}) = 10°$

$m(\widehat{CDE}) = 100°$

$\Rightarrow m(\widehat{DEF}) = \alpha = ?$

A) 40 B) 50 C) 60 D) 70 E) 80

11.



$d_1 \parallel d_2 \parallel d_3$

$m(\widehat{EDC}) = 100°$

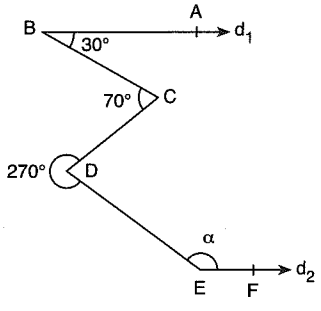
$m(\widehat{ABC}) = 120°$

$m(\widehat{BCF}) = m(\widehat{FCD})$

$\Rightarrow m(\widehat{KFC}) = \alpha = ?$

A) 60 B) 80 C) 100 D) 120 E) 140

12.



$d_1 \parallel d_2$

$m(\widehat{ABC}) = 30°$

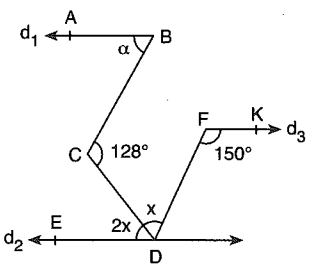
$m(\widehat{BCD}) = 70°$

$m(\widehat{CDE}) = 270°$

$\Rightarrow m(\widehat{DEF}) = \alpha = ?$

A) 120 B) 130 C) 145 D) 165 E) 170

13.



$d_1 \parallel d_2 \parallel d_3$

$m(\widehat{BCD}) = 128°$

$m(\widehat{DFK}) = 150°$

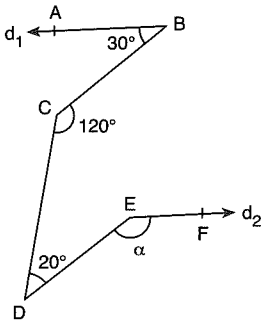
$m(\widehat{CDF}) = x$

$m(\widehat{CDE}) = 2x$

$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 28 B) 32 C) 38 D) 40 E) 42

14.



$d_1 \parallel d_2$

$m(\widehat{ABC}) = 30°$

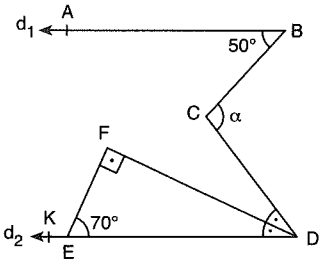
$m(\widehat{BCD}) = 120°$

$m(\widehat{CDE}) = 20°$

$\Rightarrow m(\widehat{DEF}) = \alpha = ?$

A) 100 B) 110 C) 120 D) 130 E) 140

15.



$d_1 \parallel d_2$

$[EF] \perp [FD]$

$m(\widehat{ABC}) = 50°$

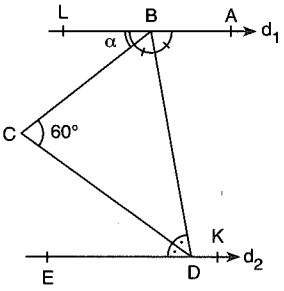
$m(\widehat{FED}) = 70°$

$m(\widehat{CDF}) = m(\widehat{FDK})$

$\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 90 B) 80 C) 70 D) 60 E) 50

16.



$d_1 \parallel d_2$

$m(\widehat{BCD}) = 60°$

$m(\widehat{CBD}) = m(\widehat{DBA})$

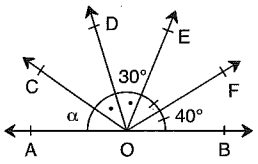
$m(\widehat{EDC}) = m(\widehat{CDB})$

$\Rightarrow m(\widehat{CBL}) = \alpha = ?$

A) 20 B) 40 C) 50 D) 60 E) 80

PUZA YAYINLARI

1.



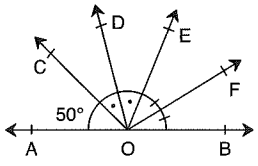
$m(\widehat{COD}) = m(\widehat{DOE}) = 30°$

$m(\widehat{EOF}) = m(\widehat{FOB}) = 40°$

$\Rightarrow m(\widehat{AOC}) = \alpha = ?$

A) 40 B) 50 C) 55 D) 60 E) 70

2.



$m(\widehat{AOC}) = 50°$

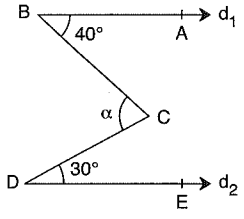
$m(\widehat{COD}) = m(\widehat{DOE})$

$m(\widehat{EOF}) = m(\widehat{FOD})$

$\Rightarrow m(\widehat{DOF}) = ?$

A) 50 B) 60 C) 65 D) 70 E) 90

3.



$d_1 // d_2$

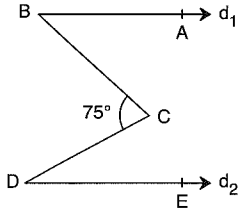
$m(\widehat{ABC}) = 40°$

$m(\widehat{CDE}) = 30°$

$\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 30 B) 40 C) 50 D) 70 E) 110

4.



$d_1 // d_2$

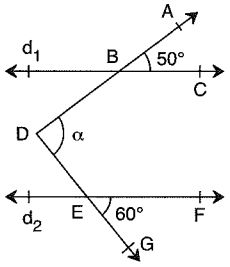
$2m(\widehat{ABC}) = 3m(\widehat{CDE})$

$m(\widehat{BCD}) = 75°$

$\Rightarrow m(\widehat{CDE}) = ?$

A) 15 B) 30 C) 45 D) 50 E) 55

5.



$d_1 // d_2$

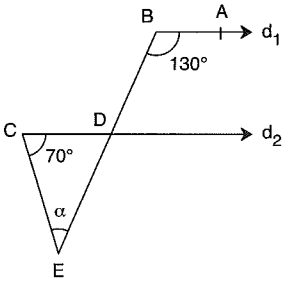
$m(\widehat{ABC}) = 50°$

$m(\widehat{FEG}) = 60°$

$\Rightarrow m(\widehat{ADG}) = \alpha = ?$

A) 50 B) 55 C) 60 D) 100 E) 110

6.



$d_1 // d_2$

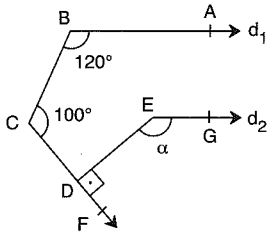
$m(\widehat{ABE}) = 130°$

$m(\widehat{DCE}) = 70°$

$\Rightarrow m(\widehat{CEB}) = \alpha = ?$

A) 50 B) 60 C) 70 D) 80 E) 90

7.



$d_1 // d_2$

$[ED] \perp [CF$

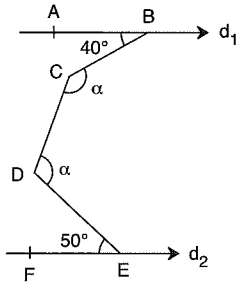
$m(\widehat{ABC}) = 120°$

$m(\widehat{BCF}) = 100°$

$\Rightarrow m(\widehat{DEG}) = \alpha = ?$

A) 130 B) 100 C) 60 D) 50 E) 40

8.



$d_1 // d_2$

$m(\widehat{ABC}) = 40°$

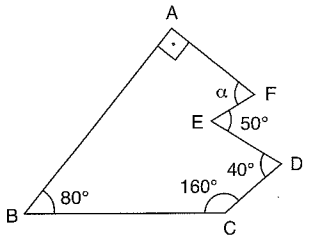
$m(\widehat{DEF}) = 50°$

$\Rightarrow m(\widehat{BCD}) = m(\widehat{CDE}) = \alpha = ?$

A) 115 B) 125 C) 135 D) 145 E) 150

PUZA YAYINLARI

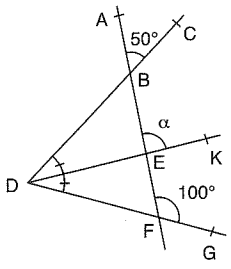
9.



$m(\widehat{EDC}) = 40°$
$m(\widehat{ABC}) = 80°$
$m(\widehat{FED}) = 50°$
$m(\widehat{BCD}) = 160°$
$[FA] \perp [AB]$
$\Rightarrow m(\widehat{AFE}) = \alpha = ?$

A) 40 B) 50 C) 60 D) 70 E) 80

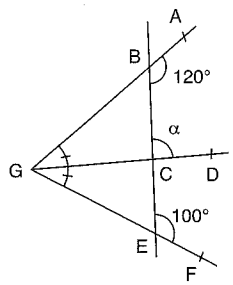
10.



$m(\widehat{ABC}) = 50°$
$m(\widehat{AFG}) = 100°$
$m(\widehat{CDK}) = m(\widehat{KDG})$
$\Rightarrow m(\widehat{AEK}) = \alpha = ?$

A) 60 B) 70 C) 75 D) 80 E) 85

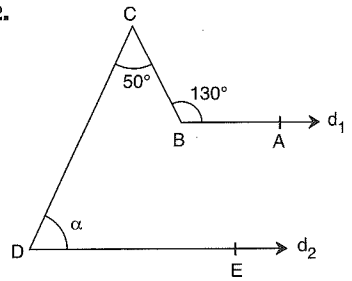
11.



$m(\widehat{ABE}) = 120°$
$m(\widehat{BEF}) = 100°$
$m(\widehat{AGD}) = m(\widehat{DGF})$
$\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 110 B) 100 C) 80 D) 60 E) 50

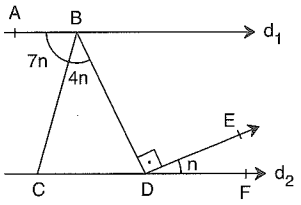
12.



$d_1 // d_2$
$m(\widehat{ABC}) = 130°$
$m(\widehat{BCD}) = 50°$
$\Rightarrow m(\widehat{CDE}) = \alpha = ?$

A) 130 B) 100 C) 90 D) 80 E) 70

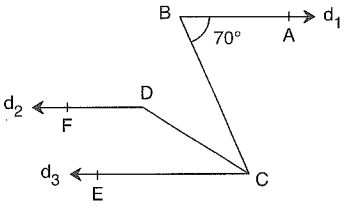
13.



$d_1 // d_2$
$[BD] \perp [DE$
$m(\widehat{EDF}) = n$
$m(\widehat{ABC}) = 7n$
$\Rightarrow m(\widehat{CBD}) = 4n \Rightarrow n = ?$

A) 9 B) 20 C) 25 D) 30 E) 35

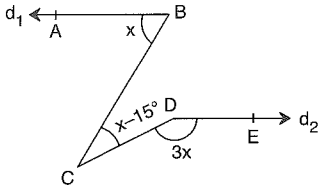
14.



$d_1 // d_2 // d_3$
$4m(\widehat{BCD}) = 3m(\widehat{DCE})$
$m(\widehat{ABC}) = 70°$
$\Rightarrow m(\widehat{CDF}) = \alpha = ?$

A) 130 B) 140 C) 150 D) 160 E) 170

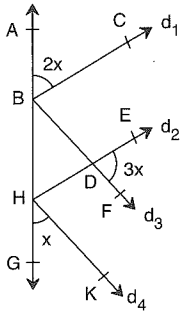
15.



$d_1 // d_2$
$m(\widehat{ABC}) = x$
$m(\widehat{BCD}) = x - 15°$
$m(\widehat{CDE}) = 3x$
$\Rightarrow x = ?$

A) 45 B) 50 C) 55 D) 60 E) 65

16.

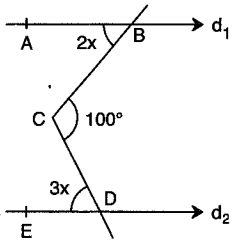


$d_1 // d_2$
$d_3 // d_4$
$m(\widehat{ABC}) = 2x$
$m(\widehat{EDF}) = 3x$
$\Rightarrow m(\widehat{GHK}) = x = ?$

A) 20 B) 30 C) 40 D) 50 E) 60

PUZA YAYINLARI

1.



$d_1 // d_2$

$m(\widehat{ABC}) = 2x$

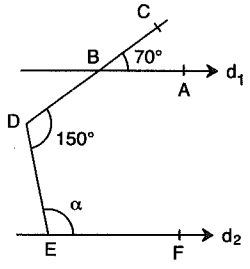
$m(\widehat{CDE}) = 3x$

$m(\widehat{BCD}) = 100°$

$\Rightarrow x = ?$

A) 10 B) 15 C) 20 D) 25 E) 30

2.



$d_1 // d_2$

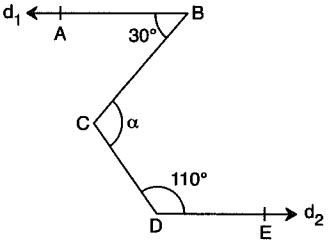
$m(\widehat{CBA}) = 70°$

$m(\widehat{BDE}) = 150°$

$\Rightarrow m(\widehat{DEF}) = \alpha = ?$

A) 40 B) 60 C) 80 D) 100 E) 110

3.



$d_1 // d_2$

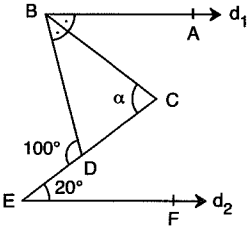
$m(\widehat{ABC}) = 30°$

$m(\widehat{CDE}) = 110°$

$\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 140 B) 130 C) 120 D) 110 E) 100

4.



$d_1 // d_2$

$m(\widehat{ABC}) = m(\widehat{CBD})$

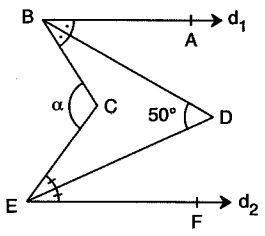
$m(\widehat{BDE}) = 100°$

$m(\widehat{CEF}) = 20°$

$\Rightarrow m(\widehat{BCE}) = \alpha = ?$

A) 90 B) 80 C) 70 D) 60 E) 50

5.



$d_1 // d_2$

$m(\widehat{ABD}) = m(\widehat{CBD})$

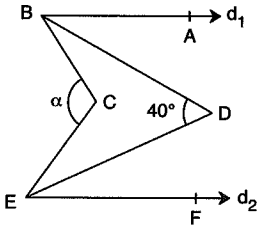
$m(\widehat{CED}) = m(\widehat{DEF})$

$m(\widehat{BDE}) = 50°$

$\Rightarrow m(\widehat{BCE}) = \alpha = ?$

A) 25 B) 50 C) 75 D) 90 E) 100

6.



$d_1 // d_2$

$m(\widehat{ABC}) = 2m(\widehat{CBD})$

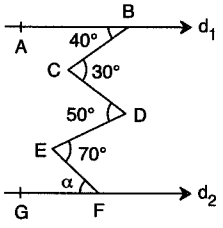
$m(\widehat{CEF}) = 2m(\widehat{DEC})$

$m(\widehat{BDE}) = 40°$

$\Rightarrow m(\widehat{BCE}) = \alpha = ?$

A) 20 B) 40 C) 60 D) 80 E) 120

7.



$d_1 // d_2$

$m(\widehat{ABC}) = 40°$

$m(\widehat{BCD}) = 30°$

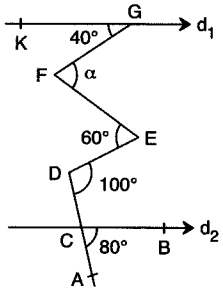
$m(\widehat{CDE}) = 50°$

$m(\widehat{DEF}) = 70°$

$\Rightarrow m(\widehat{EFG}) = \alpha = ?$

A) 10 B) 20 C) 30 D) 40 E) 50

8.



$d_1 // d_2$

$m(\widehat{KGF}) = 40°$

$m(\widehat{FED}) = 60°$

$m(\widehat{EDC}) = 100°$

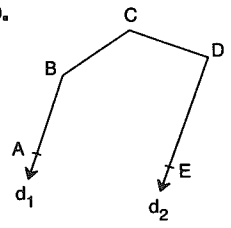
$m(\widehat{BCA}) = 80°$

$\Rightarrow m(\widehat{GFE}) = \alpha = ?$

A) 50 B) 60 C) 70 D) 80 E) 90

PUZA YAYINLARI

9.



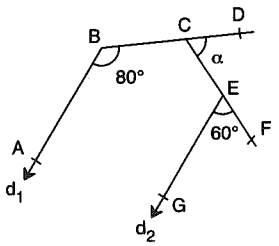
$d_1 // d_2$

$3m(\widehat{ABC}) = 4m(\widehat{BCD}) = 6m(\widehat{CDE})$

$\Rightarrow m(\widehat{BCD}) = ?$

A) 40 B) 80 C) 120 D) 160 E) 200

10.



$d_1 // d_2$

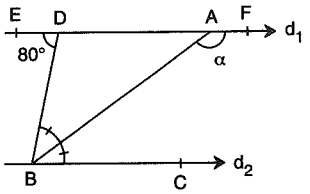
$m(\widehat{ABD}) = 80°$

$m(\widehat{FEG}) = 60°$

$\Rightarrow m(\widehat{DCF}) = \alpha = ?$

A) 35 B) 30 C) 25 D) 20 E) 10

11.



$d_1 // d_2$

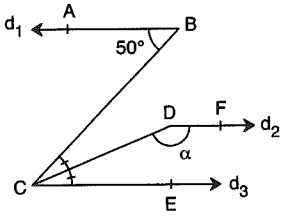
$m(\widehat{EDB}) = 80°$

$m(\widehat{DBA}) = m(\widehat{ABC})$

$\Rightarrow m(\widehat{FAB}) = \alpha = ?$

A) 100 B) 110 C) 120 D) 130 E) 140

12.



$d_1 // d_2 // d_3$

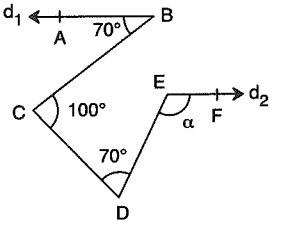
$m(\widehat{ABC}) = 50°$

$m(\widehat{BCD}) = m(\widehat{DCE})$

$\Rightarrow m(\widehat{CDF}) = \alpha = ?$

A) 130 B) 145 C) 155 D) 165 E) 175

13.



$d_1 // d_2$

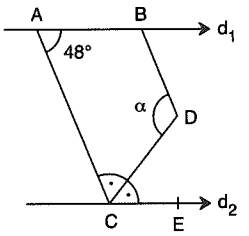
$m(\widehat{ABC}) = m(\widehat{CDE}) = 70°$

$m(\widehat{BCD}) = 100°$

$\Rightarrow m(\widehat{DEF}) = \alpha = ?$

A) 100 B) 110 C) 120 D) 130 E) 140

14.



$d_1 // d_2$

$[AC] // [BD]$

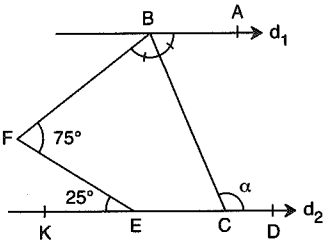
$m(\widehat{BAC}) = 48°$

$m(\widehat{ACD}) = m(\widehat{DCE})$

$\Rightarrow m(\widehat{BDC}) = \alpha = ?$

A) 48 B) 66 C) 98 D) 104 E) 114

15.



$d_1 // d_2$

$m(\widehat{FEK}) = 25°$

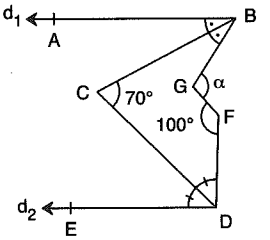
$m(\widehat{BFE}) = 75°$

$m(\widehat{FBC}) = m(\widehat{CBA})$

$\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 50 B) 60 C) 105 D) 115 E) 125

16.



$d_1 // d_2$

$m(\widehat{ABC}) = m(\widehat{CBG})$

$m(\widehat{FDC}) = m(\widehat{CDE})$

$m(\widehat{GFD}) = 100°$

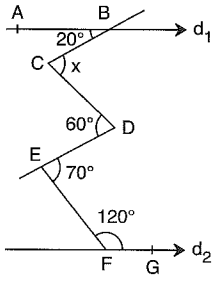
$m(\widehat{BCD}) = 70°$

$\Rightarrow m(\widehat{BGF}) = \alpha = ?$

A) 30 B) 35 C) 45 D) 55 E) 60

PUZA YAYINLARI

1.



$d_1 // d_2$

$m(\widehat{ABC}) = 20°$

$m(\widehat{CDE}) = 60°$

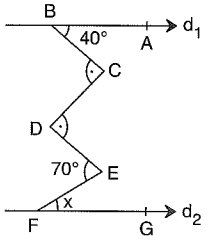
$m(\widehat{DEF}) = 70°$

$m(\widehat{EFG}) = 120°$

$\Rightarrow m(\widehat{BCD}) = x = ?$

A) 60 B) 70 C) 80 D) 100 E) 110

2.



$d_1 // d_2$

$m(\widehat{ABC}) = 40°$

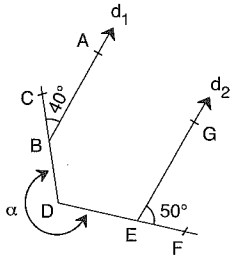
$m(\widehat{BCD}) = m(\widehat{CDE})$

$m(\widehat{DEF}) = 70°$

$\Rightarrow m(\widehat{EFG}) = x = ?$

A) 20 B) 30 C) 40 D) 70 E) 110

3.



$d_1 // d_2$

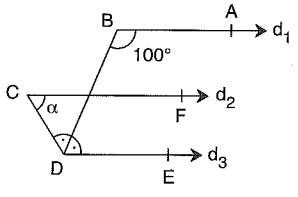
$m(\widehat{ABC}) = 40°$

$m(\widehat{GEF}) = 50°$

$\Rightarrow m(\widehat{CDF}) = \alpha = ?$

A) 90 B) 180 C) 240 D) 270 E) 290

4.



$d_1 // d_2 // d_3$

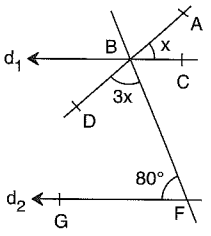
$m(\widehat{ABD}) = 100°$

$m(\widehat{CDB}) = m(\widehat{BDE})$

$\Rightarrow m(\widehat{FCD}) = \alpha = ?$

A) 110 B) 90 C) 70 D) 60 E) 20

5.



$d_1 // d_2$

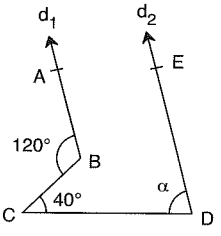
$m(\widehat{DBF}) = 3m(\widehat{ABC})$

$m(\widehat{BFG}) = 80°$

$\Rightarrow m(\widehat{ABC}) = x = ?$

A) 25 B) 20 C) 18 D) 15 E) 10

6.



$d_1 // d_2$

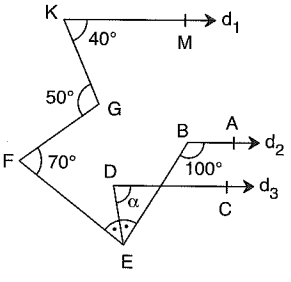
$m(\widehat{ABC}) = 120°$

$m(\widehat{BCD}) = 40°$

$\Rightarrow m(\widehat{EDC}) = \alpha = ?$

A) 60 B) 70 C) 80 D) 90 E) 110

7.



$d_1 // d_2 // d_3$

$m(\widehat{MKG}) = 40°$

$m(\widehat{KGF}) = 50°$

$m(\widehat{GFE}) = 70°$

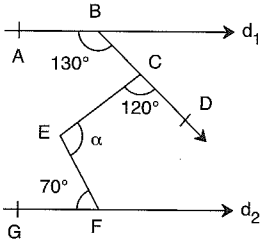
$m(\widehat{FED}) = m(\widehat{DEB})$

$m(\widehat{ABE}) = 100°$

$\Rightarrow m(\widehat{EDC}) = \alpha = ?$

A) 90 B) 80 C) 70 D) 60 E) 50

8.



$d_1 // d_2$

$m(\widehat{ABD}) = 130°$

$m(\widehat{DCE}) = 120°$

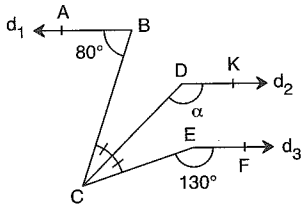
$m(\widehat{EFG}) = 70°$

$\Rightarrow m(\widehat{CEF}) = \alpha = ?$

A) 90 B) 80 C) 70 D) 60 E) 50

PUZA YAYINLARI

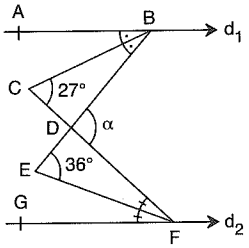
9.



$d_1 // d_2 // d_3$
$m(\widehat{ABC}) = 80°$
$m(\widehat{CEF}) = 130°$
$m(\widehat{BCD}) = m(\widehat{DCE})$
$\Rightarrow m(\widehat{CDK}) = \alpha = ?$

A) 105 B) 110 C) 115 D) 120 E) 125

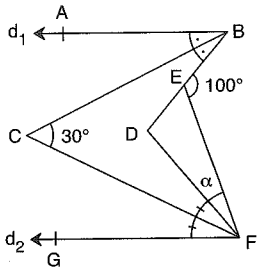
10.



$d_1 // d_2$
$m(\widehat{ABC}) = m(\widehat{CBE})$
$m(\widehat{CFE}) = m(\widehat{EFG})$
$m(\widehat{BCF}) = 27°$
$m(\widehat{BEF}) = 36°$
$\Rightarrow m(\widehat{BDF}) = \alpha = ?$

A) 38 B) 42 C) 63 D) 72 E) 81

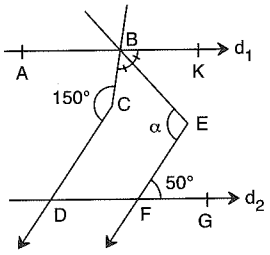
11.



$d_1 // d_2$
$m(\widehat{ABC}) = m(\widehat{CBD})$
$m(\widehat{DFC}) = m(\widehat{CFG})$
$m(\widehat{BEF}) = 100°$
$m(\widehat{BCF}) = 30°$
$\Rightarrow m(\widehat{DFE}) = \alpha = ?$

A) 30 B) 35 C) 40 D) 45 E) 50

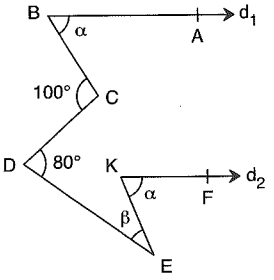
12.



$d_1 // d_2$
$[CD // [EF$
$m(\widehat{BCD}) = 150°$
$m(\widehat{EFG}) = 50°$
$m(\widehat{CBE}) = m(\widehat{EBK})$
$\Rightarrow m(\widehat{BEF}) = \alpha = ?$

A) 120 B) 110 C) 100 D) 90 E) 80

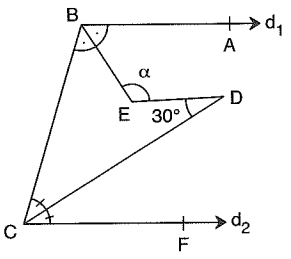
13.



$d_1 // d_2$
$m(\widehat{BCD}) = 100°$
$m(\widehat{CDE}) = 80°$
$m(\widehat{ABC}) = m(\widehat{EKF}) = \alpha$
$\Rightarrow m(\widehat{DEK}) = \beta = ?$

A) 20 B) 25 C) 30 D) 35 E) 40

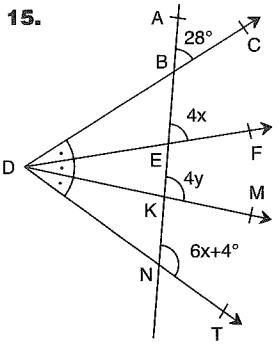
14.



$d_1 // d_2$
$m(\widehat{ABE}) = m(\widehat{EBC})$
$m(\widehat{BCD}) = m(\widehat{DCF})$
$m(\widehat{EDC}) = 30°$
$\Rightarrow m(\widehat{BED}) = \alpha = ?$

A) 90 B) 100 C) 110 D) 120 E) 130

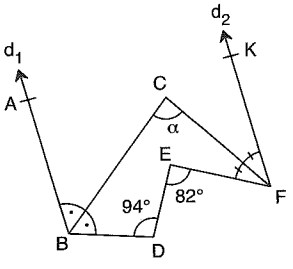
15.



$m(\widehat{CDF}) = m(\widehat{FDM}) = m(\widehat{MDT})$
$m(\widehat{ABC}) = 28°$
$m(\widehat{AEF}) = 4x$
$m(\widehat{AKM}) = 4y$
$m(\widehat{ANT}) = 6x + 4°$
$\Rightarrow y = ?$

A) 10 B) 11 C) 12 D) 13 E) 14

16.

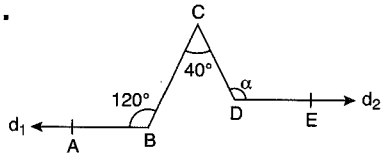


$d_1 // d_2$
$m(\widehat{BDE}) = 94°$
$m(\widehat{DEF}) = 82°$
$m(\widehat{ABC}) = m(\widehat{CBD})$
$m(\widehat{KFC}) = m(\widehat{CFE})$
$\Rightarrow m(\widehat{BCF}) = \alpha = ?$

A) 80 B) 82 C) 84 D) 86 E) 90

PUZA YAYINLARI

1.



$d_1 // d_2$

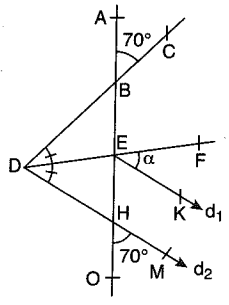
$m(\widehat{ABC}) = 120°$

$m(\widehat{BCD}) = 40°$

$\Rightarrow m(\widehat{CDE}) = \alpha = ?$

A) 70 B) 80 C) 90 D) 100 E) 110

2.



$d_1 // d_2$

$m(\widehat{ABC}) = 70°$

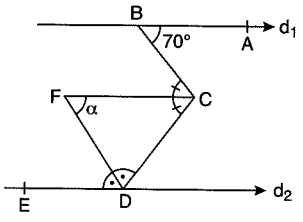
$m(\widehat{MHO}) = 70°$

$m(\widehat{CDF}) = (\widehat{FDB})$

$\Rightarrow m(\widehat{FEK}) = \alpha = ?$

A) 10 B) 20 C) 30 D) 50 E) 70

3.



$d_1 // d_2$

$m(\widehat{ABC}) = 70°$

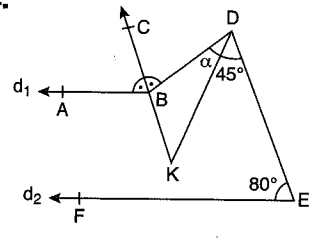
$m(\widehat{CDF}) = m(\widehat{FDE})$

$m(\widehat{BCF}) = m(\widehat{FCD})$

$\Rightarrow m(\widehat{CFD}) = \alpha = ?$

A) 45 B) 50 C) 55 D) 60 E) 65

4.



$d_1 // d_2$

[DE]//[KC

$m(\widehat{ABC}) = m(\widehat{CBD})$

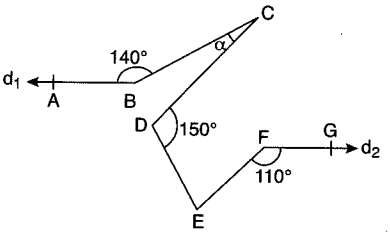
$m(\widehat{KDE}) = 45°$

$m(\widehat{DEF}) = 80°$

$\Rightarrow m(\widehat{BDK}) = \alpha = ?$

A) 35 B) 40 C) 45 D) 50 E) 55

5.



$d_1 // d_2$

[DC] // [EF]

$m(\widehat{ABC}) = 140°$

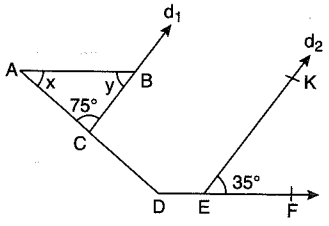
$m(\widehat{EFG}) = 110°$

$m(\widehat{CDE}) = 150°$

$\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 50 E) 60

6.



$d_1 // d_2$

[AB]//[DF

$m(\widehat{ACB}) = 75°$

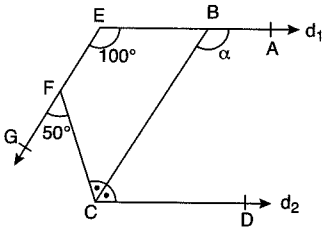
$m(\widehat{KEF}) = 35°$

$m(\widehat{DAB}) = x$

$\Rightarrow m(\widehat{ABC}) = y = ?$

A) 25 B) 30 C) 35 D) 40 E) 45

7.



$d_1 // d_2$

$m(\widehat{AEG}) = 100°$

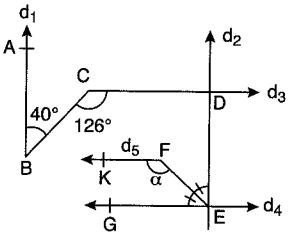
$m(\widehat{GFC}) = 50°$

$m(\widehat{FCB}) = m(\widehat{BCD})$

$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 50 B) 70 C) 100 D) 115 E) 120

8.



$d_1 // d_2$

$d_3 // d_4 // d_5$

$m(\widehat{ABC}) = 40°$

$m(\widehat{BCD}) = 126°$

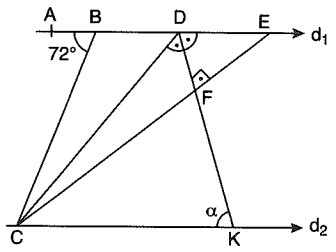
$m(\widehat{DEF}) = m(\widehat{FEG})$

$\Rightarrow m(\widehat{KFE}) = \alpha = ?$

A) 94 B) 104 C) 117 D) 127 E) 137

PUZA YAYINLARI

9.



$d_1 // d_2$

$m(\widehat{CDK}) = m(\widehat{KDE})$

$[DF] \perp [CE]$

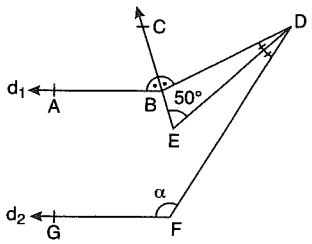
$m(\widehat{ABC}) = 72°$

$m(\widehat{BCD}) = 2m(\widehat{DCE})$

$\Rightarrow m(\widehat{DKC}) = \alpha = ?$

A) 68 B) 70 C) 72 D) 74 E) 76

10.



$d_1 // d_2$

$m(\widehat{ABC}) = m(\widehat{CBD})$

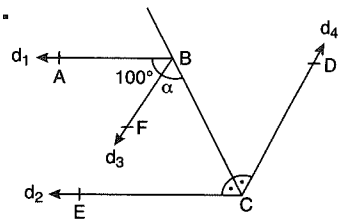
$m(\widehat{BDE}) = m(\widehat{EDF})$

$m(\widehat{CED}) = 50°$

$\Rightarrow m(\widehat{DFG}) = \alpha = ?$

A) 70 B) 80 C) 90 D) 100 E) 110

11.



$d_1 // d_2$

$d_3 // d_4$

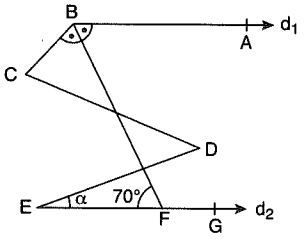
$m(\widehat{ABF}) = 100°$

$m(\widehat{ECB}) = m(\widehat{BCD})$

$\Rightarrow m(\widehat{FBC}) = \alpha = ?$

A) 40 B) 45 C) 50 D) 55 E) 60

12.



$d_1 // d_2$

$m(\widehat{ABF}) = m(\widehat{CBF})$

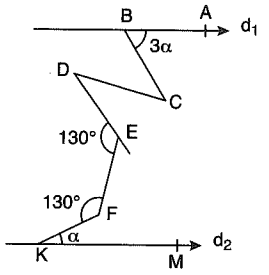
$m(\widehat{BCD}) = m(\widehat{CDE})$

$m(\widehat{BFE}) = 70°$

$\Rightarrow m(\widehat{DEG}) = \alpha = ?$

A) 15 B) 25 C) 30 D) 35 E) 40

13.



$d_1 // d_2$

$[BC] // [DE]$

$m(\widehat{ABC}) = 3\alpha$

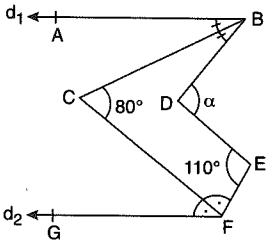
$m(\widehat{DEF}) = 130°$

$m(\widehat{EFK}) = 130°$

$\Rightarrow m(\widehat{FKM}) = \alpha = ?$

A) 10 B) 20 C) 30 D) 40 E) 50

14.



$d_1 // d_2$

$m(\widehat{BCF}) = 80°$

$m(\widehat{DEF}) = 110°$

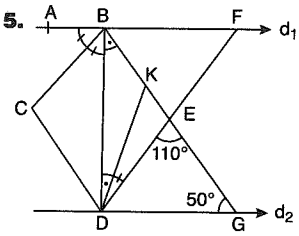
$m(\widehat{ABC}) = m(\widehat{CBD})$

$m(\widehat{EFC}) = m(\widehat{CFG})$

$\Rightarrow m(\widehat{BDE}) = \alpha = ?$

A) 60 B) 70 C) 80 D) 90 E) 100

15.



$d_1 // d_2$

$m(\widehat{DEG}) = 110°$

$m(\widehat{EGD}) = 50°$

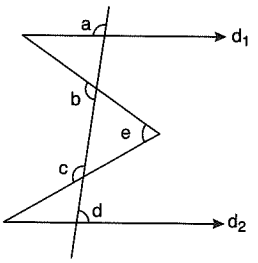
$m(\widehat{DBG}) = m(\widehat{BDK})$

$m(\widehat{ABC}) = m(\widehat{CBD}) = m(\widehat{KDF})$

$\Rightarrow m(\widehat{CBG}) = ?$

A) 90 B) 80 C) 70 D) 60 E) 50

16.



$d_1 // d_2$

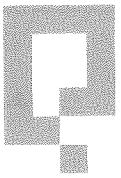
$a + b + c + d = 460$

$\Rightarrow e = ?$

A) 100 B) 90 C) 80 D) 70 E) 60

PUZA YAYINLARI

ZTC زنگنه مجموعه موسسات



AÇILAR ANGLES
Yanıt Anahtarı Answer Key

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	D	D	D	C	B	C	A	E	C	A	A	B	D	D	D

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	D	C	B	D	A	A	C	B	C	D	B	B	A	C	E

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	A	D	C	E	C	B	B	C	B	C	B	A	B	A	A

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	C	D	B	E	B	A	C	A	C	C	D	A	B	C	B

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	D	E	D	E	D	A	D	C	D	E	C	A	E	D	E

TEST 6

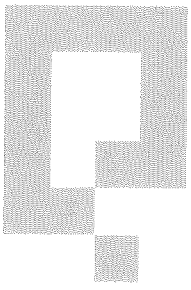
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	B	D	E	A	C	B	B	C	B	C	C	A	D	D	C

TEST 7

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	B	C	A	B	C	D	E	C	D	A	E	B	D	B	A

www.ztcprep.com

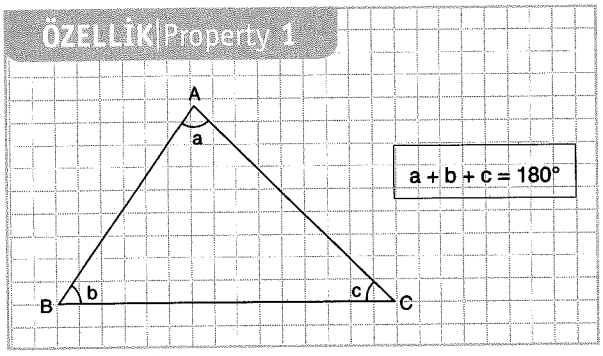
زنگنه ZTC
مجموعه موسسات



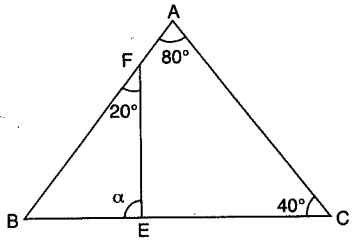
ÜÇGENDE AÇILAR
ANGLES OF TRIANGLE

www.ztcprep.com

ÖZELLİK | Property 1



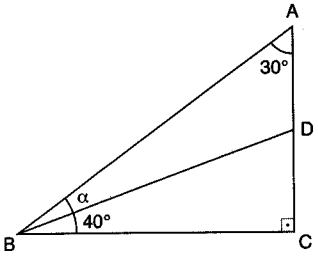
1.



⇒ α = ?

100

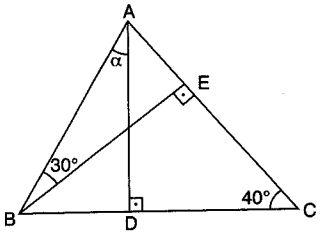
2.



⇒ α = ?

20

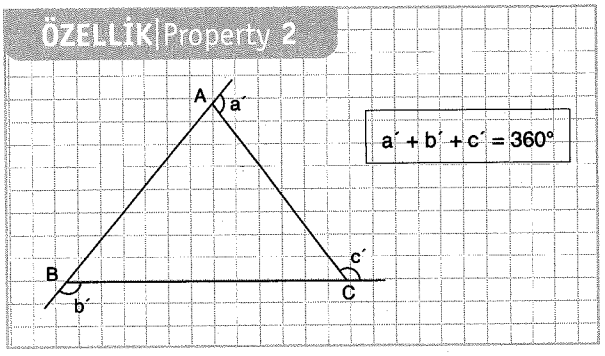
3.



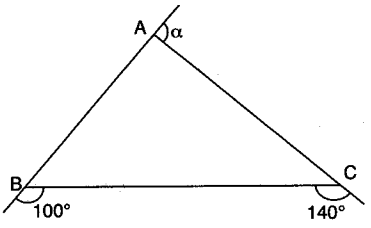
⇒ α = ?

10

ÖZELLİK | Property 2



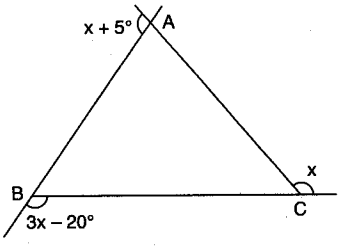
1.



⇒ α = ?

120

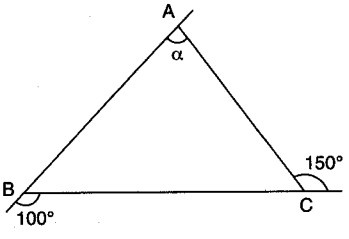
2.



⇒ x = ?

75

3.

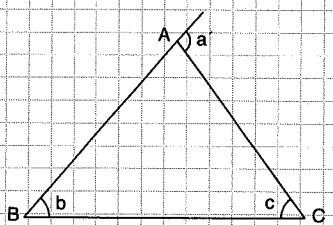


⇒ α = ?

70

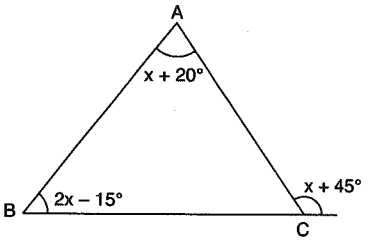
PUZA YAYINLARI

ÖZELLİK|Property 3



$a' = b + c$

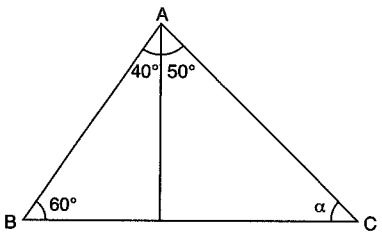
1.



$\Rightarrow x = ?$

20

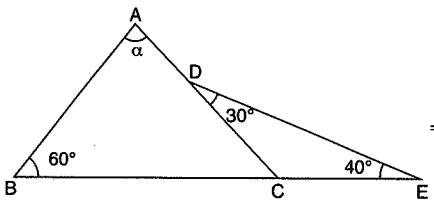
2.



$\Rightarrow \alpha = ?$

30

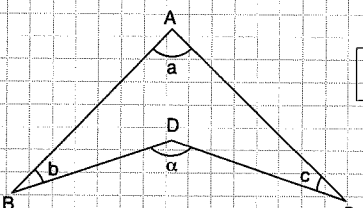
3.



$\Rightarrow \alpha = ?$

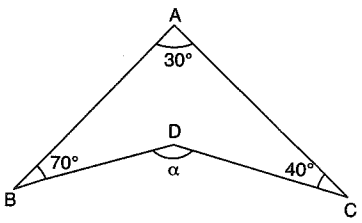
50

ÖZELLİK|Property 4



$\alpha = a + b + c$

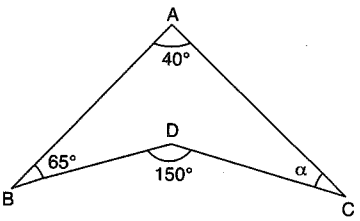
1.



$\Rightarrow \alpha = ?$

140

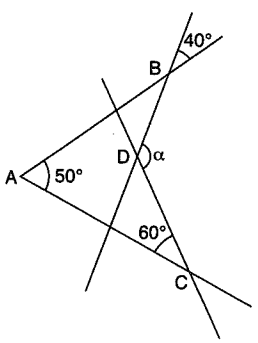
2.



$\Rightarrow \alpha = ?$

45

3.

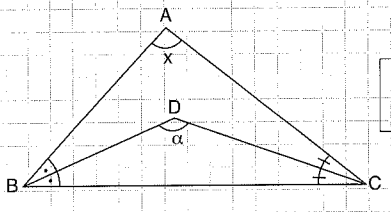


$\Rightarrow \alpha = ?$

150

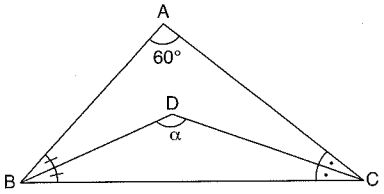
PUZA YAYINLARI

ÖZELLİK|Property 5



$$\alpha = 90° + \frac{x}{2}$$

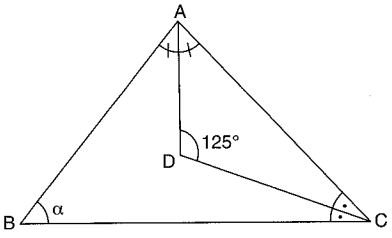
1.



$\Rightarrow \alpha = ?$

120

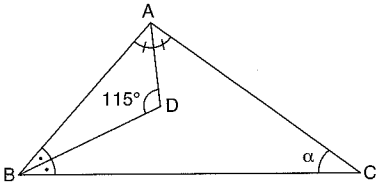
2.



$\Rightarrow \alpha = ?$

70

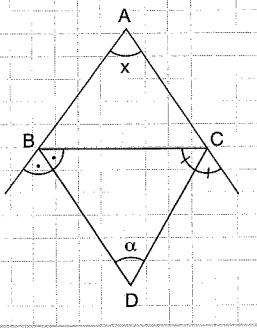
3.



$\Rightarrow \alpha = ?$

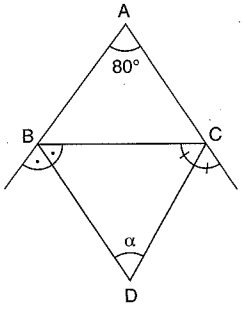
50

ÖZELLİK|Property 6



$$\alpha = 90° - \frac{x}{2}$$

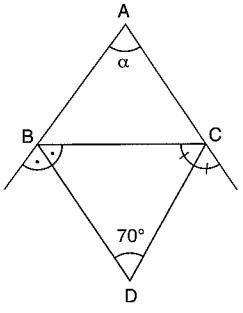
1.



$\Rightarrow \alpha = ?$

50

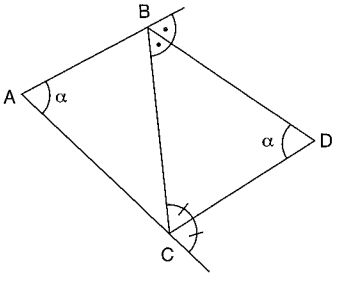
2.



$\Rightarrow \alpha = ?$

40

3.

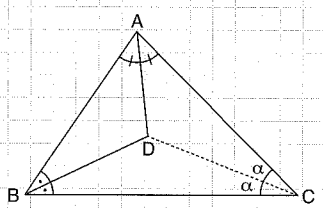


$\Rightarrow \alpha = ?$

60

PUZA YAYINLARI

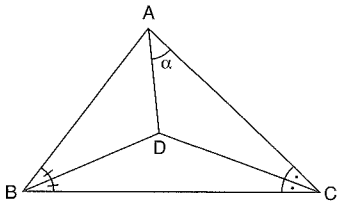
ÖZELLİK | Property 7



Üçgenin iç açıortayları, üçgenin iç bölgesinde bir noktada kesişir.

The interior angle bisectors are intersected at a point inside of the triangle.

1.

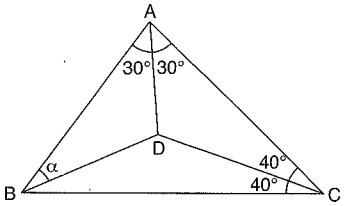


$m(\widehat{BAC}) = 70°$

$\Rightarrow \alpha = ?$

35

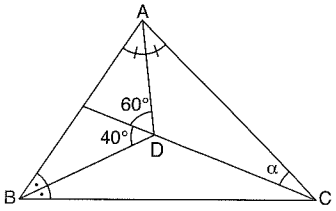
2.



$\Rightarrow \alpha = ?$

20

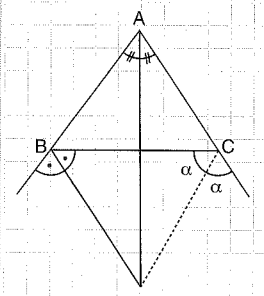
3.



$\Rightarrow \alpha = ?$

10

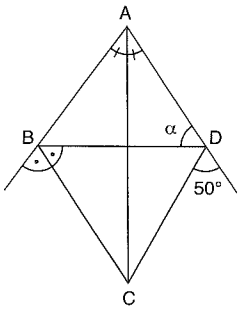
ÖZELLİK | Property 8



Bir üçgende iki açının dış açıortayları ile diğer açının iç açıortayı üçgenin dışında bir noktada kesişir.

The exterior angle bisectors of two angle and interior angle bisector of the other angle intersected at a point outside of the triangle.

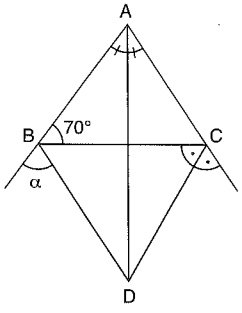
1.



$\Rightarrow \alpha = ?$

80

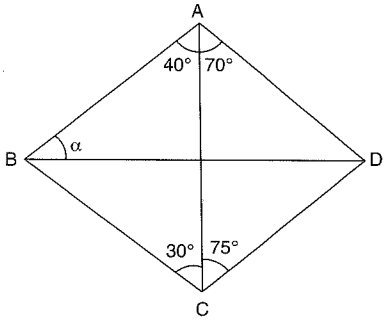
2.



$\Rightarrow \alpha = ?$

55

3.



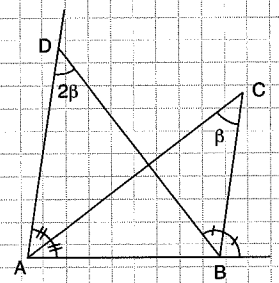
$\Rightarrow \alpha = ?$

55

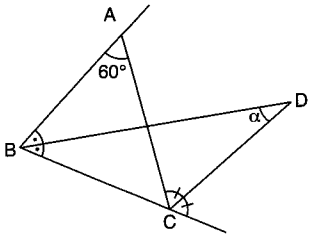
PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK | Property 9



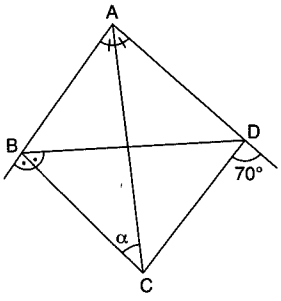
1.



$\Rightarrow \alpha = ?$

30

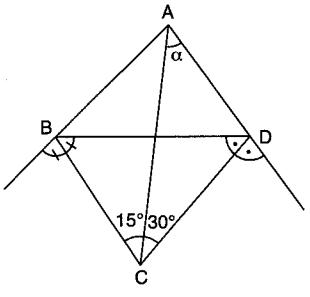
2.



$\Rightarrow \alpha = ?$

20

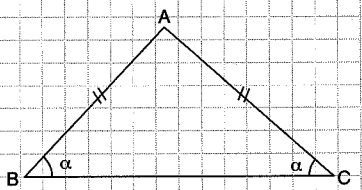
3.



$\Rightarrow \alpha = ?$

45

ÖZELLİK | Property 10



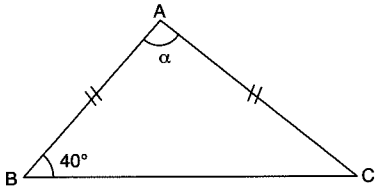
İkizkenar üçgen

Isosceles triangle

$|AB| = |AC|$

$m(\widehat{B}) = m(\widehat{C}) = \alpha$

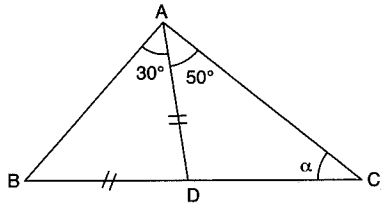
1.



$\Rightarrow \alpha = ?$

100

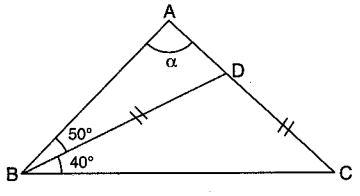
2.



$\Rightarrow \alpha = ?$

70

3.

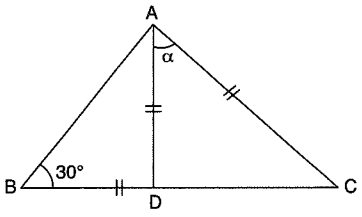


$\Rightarrow \alpha = ?$

50

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

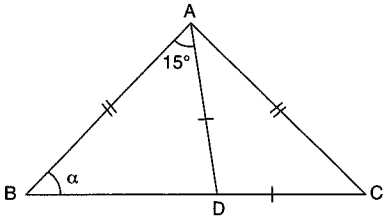
4.



$\Rightarrow \alpha = ?$

60

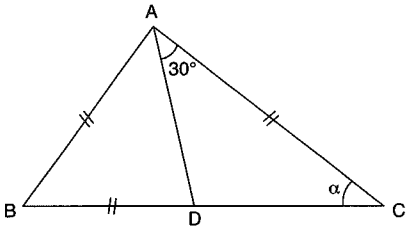
5.



$\Rightarrow \alpha = ?$

55

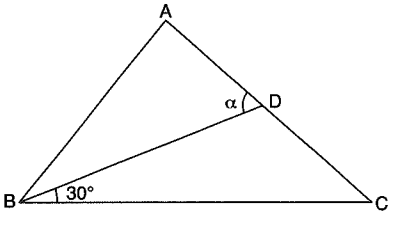
6.



$\Rightarrow \alpha = ?$

40

7.



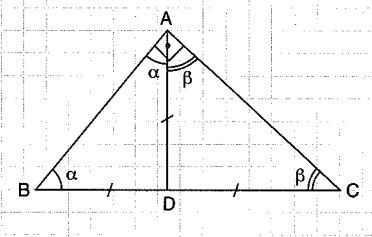
$|AB| = |AC|$

$|AD| = |BD|$

$\Rightarrow \alpha = ?$

100

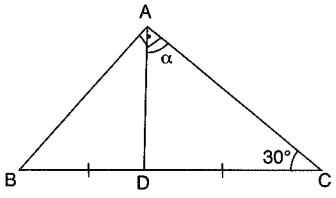
ÖZELLİK|Property 11



$2\alpha + 2\beta = 180°$

$\alpha + \beta = 90°$

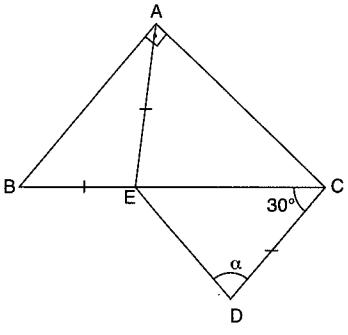
1.



$\Rightarrow \alpha = ?$

30

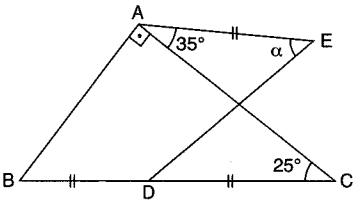
2.



$\Rightarrow \alpha = ?$

75

3.



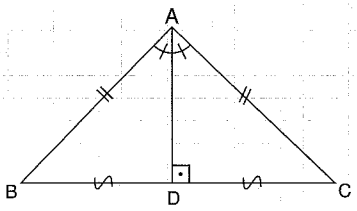
$\Rightarrow \alpha = ?$

60

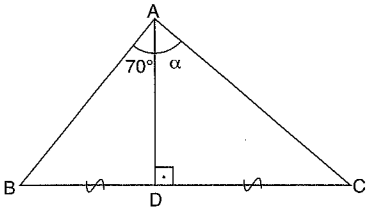
PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

ZTC زنگنه مجموعه موسسات Özellikler

ÖZELLİK | Property 12



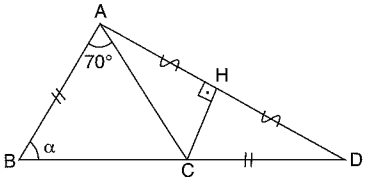
1.



$\Rightarrow \alpha = ?$

70

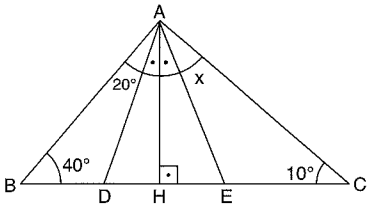
2.



$\Rightarrow \alpha = ?$

55

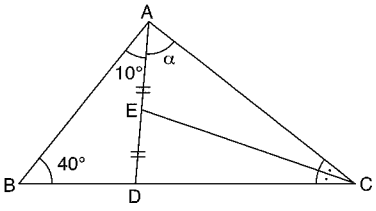
3.



$\Rightarrow x = ?$

50

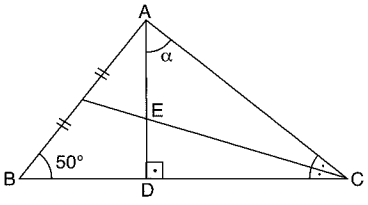
4.



$\Rightarrow \alpha = ?$

50

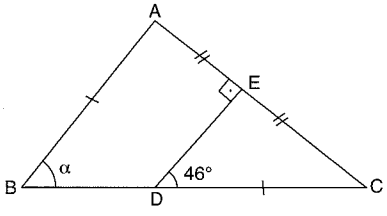
5.



$\Rightarrow \alpha = ?$

10

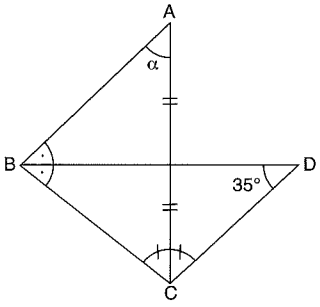
6.



$\Rightarrow \alpha = ?$

88

7.



$\Rightarrow \alpha = ?$

55

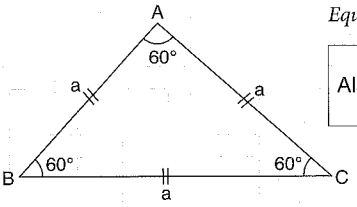
PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK | Property 13

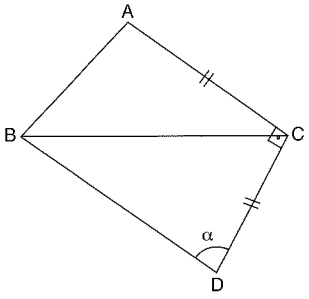
Eşkenar üçgen

Equilateral triangle



$$\text{Alan}(ABC) = \frac{a^2\sqrt{3}}{4}$$

1.



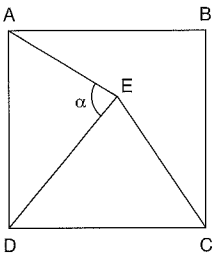
ABC eşkenar üçgen

ABC equilateral triangle

$\Rightarrow \alpha = ?$

75

2.



ABCD kare

ABCD Square

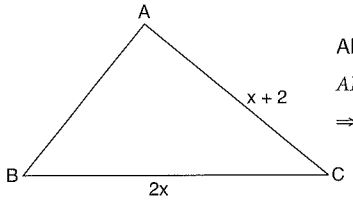
EDC eşkenar üçgen

EDC equilateral triangle

$\Rightarrow \alpha = ?$

75

3.



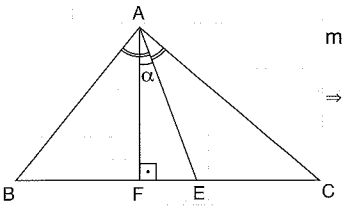
ABC eşkenar üçgen

ABC equilateral triangle

$\Rightarrow A(ABC) = ?$

$4\sqrt{3}$

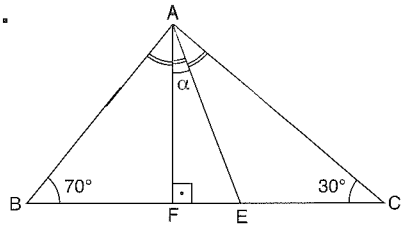
ÖZELLİK | Property 14



$$m(\widehat{BAE}) = m(\widehat{EAC})$$

$$\Rightarrow \alpha = \frac{m(\widehat{B}) - m(\widehat{C})}{2}$$

1.

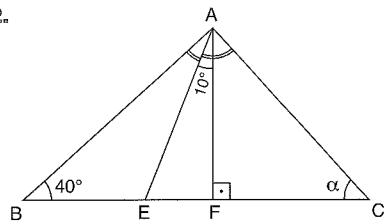


$m(\widehat{BAE}) = m(\widehat{EAC})$

$\Rightarrow \alpha = ?$

20

2.

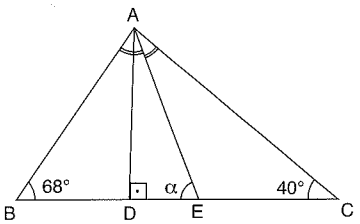


$m(\widehat{BAE}) = m(\widehat{EAC})$

$\Rightarrow \alpha = ?$

60

3.



$m(\widehat{BAE}) = m(\widehat{EAC})$

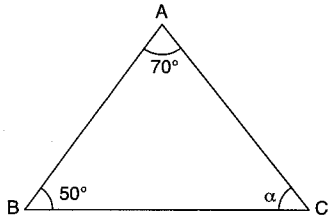
$\Rightarrow \alpha = ?$

76

PUZA YAYINLARI

www.ztcprep.com

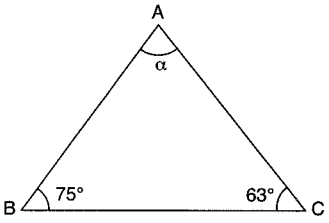
1.



$m(\widehat{BAC}) = 70°$
$m(\widehat{ABC}) = 50°$
$\Rightarrow m(\widehat{ACB}) = \alpha = ?$

A) 40 B) 50 C) 60 D) 70 E) 80

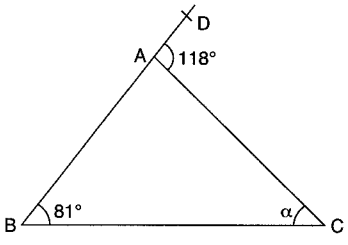
2.



$m(\widehat{ABC}) = 75°$
$m(\widehat{ACB}) = 63°$
$\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 32 B) 42 C) 48 D) 52 E) 58

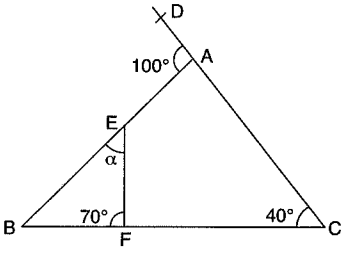
3.



$m(\widehat{DAC}) = 118°$
$m(\widehat{DBC}) = 81°$
$\Rightarrow m(\widehat{ACB}) = \alpha = ?$

A) 37 B) 43 C) 47 D) 53 E) 57

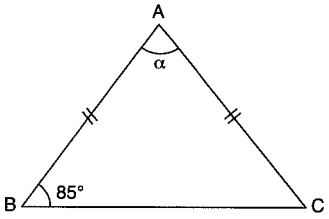
4.



$m(\widehat{DAB}) = 100°$
$m(\widehat{DCB}) = 40°$
$m(\widehat{EFB}) = 70°$
$\Rightarrow m(\widehat{BEF}) = \alpha = ?$

A) 35 B) 40 C) 45 D) 50 E) 60

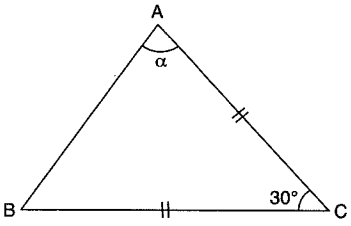
5.



$|AB| = |AC|$
$m(\widehat{ABC}) = 85°$
$\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 10 B) 20 C) 30 D) 75 E) 85

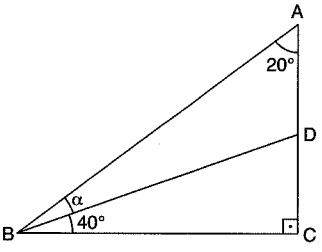
6.



$m(\widehat{ACB}) = 30°$
$|AC| = |BC|$
$\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 30 B) 45 C) 65 D) 75 E) 85

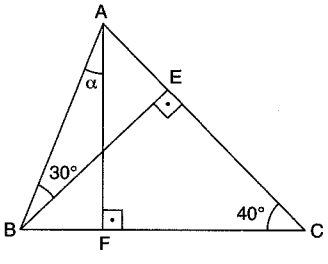
7.



$m(\widehat{BAC}) = 20°$
$m(\widehat{DBC}) = 40°$
$[AC] \perp [BC]$
$\Rightarrow m(\widehat{ABD}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 45 E) 55

8.

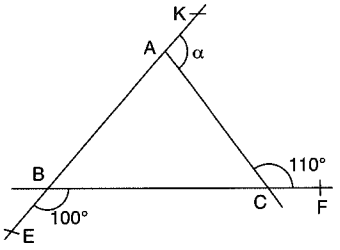


$m(\widehat{ABE}) = 30°$
$m(\widehat{ACB}) = 40°$
$[BE] \perp [AC]$
$[AF] \perp [BC]$
$\Rightarrow m(\widehat{BAF}) = \alpha = ?$

A) 10 B) 20 C) 30 D) 40 E) 50

PUZA YAYINLARI

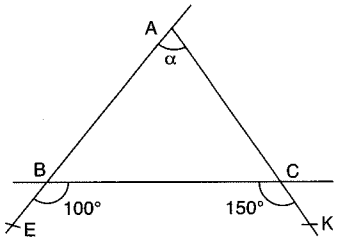
9.



$m(\widehat{ACF}) = 110°$
$m(\widehat{EBF}) = 100°$
$\Rightarrow m(\widehat{KAC}) = \alpha = ?$

A) 100 B) 110 C) 120 D) 130 E) 150

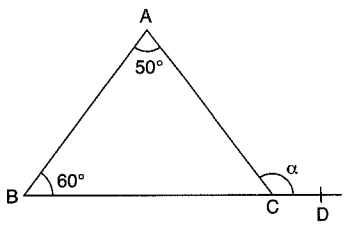
10.



$m(\widehat{EBC}) = 100°$
$m(\widehat{BCK}) = 150°$
$\Rightarrow m(\widehat{EAK}) = \alpha = ?$

A) 50 B) 60 C) 70 D) 80 E) 90

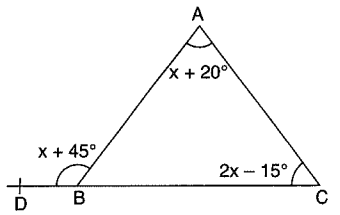
11.



$m(\widehat{ABD}) = 60°$
$m(\widehat{BAC}) = 50°$
$\Rightarrow m(\widehat{ACD}) = \alpha = ?$

A) 50 B) 60 C) 90 D) 100 E) 110

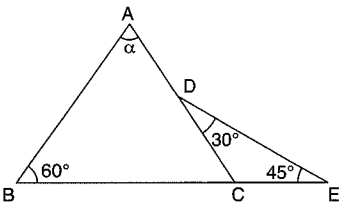
12.



$m(\widehat{BAC}) = x + 20°$
$m(\widehat{ACD}) = 2x - 15°$
$m(\widehat{ABD}) = x + 45°$
$\Rightarrow m(\widehat{ABC}) = ?$

A) 20 B) 45 C) 65 D) 115 E) 125

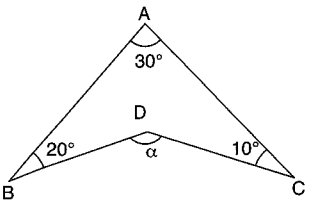
13.



$m(\widehat{ABE}) = 60°$
$m(\widehat{CDE}) = 30°$
$m(\widehat{DEB}) = 45°$
$\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 35 B) 40 C) 45 D) 50 E) 55

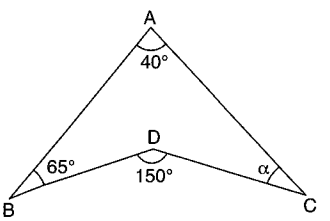
14.



$m(\widehat{BAC}) = 30°$
$m(\widehat{ABD}) = 20°$
$m(\widehat{ACD}) = 10°$
$\Rightarrow m(\widehat{BDC}) = \alpha = ?$

A) 10 B) 20 C) 30 D) 50 E) 60

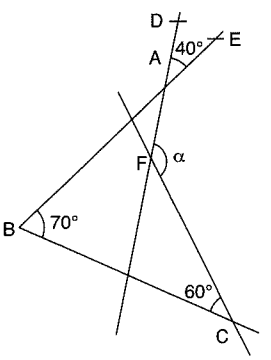
15.



$m(\widehat{BAC}) = 40°$
$m(\widehat{ABD}) = 65°$
$m(\widehat{BDC}) = 150°$
$\Rightarrow m(\widehat{ACD}) = \alpha = ?$

A) 40 B) 45 C) 50 D) 55 E) 65

16.

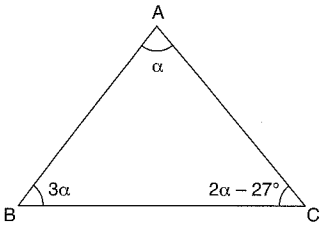


$m(\widehat{DAE}) = 40°$
$m(\widehat{ABC}) = 70°$
$m(\widehat{BCF}) = 60°$
$\Rightarrow m(\widehat{DFC}) = \alpha = ?$

A) 70 B) 130 C) 140 D) 170 E) 180

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

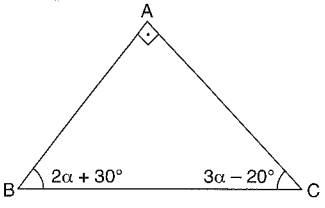
1.



$m(\widehat{BAC}) = \alpha$
$m(\widehat{ABC}) = 3\alpha$
$m(\widehat{ACB}) = 2\alpha - 27°$
$\Rightarrow \alpha = ?$

A) 30 B) 32,5 C) 34,5 D) 36,5 E) 40

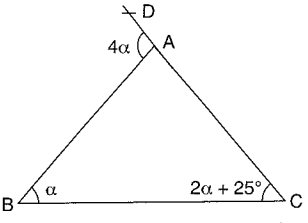
2.



$m(\widehat{ABC}) = 2\alpha + 30°$
$m(\widehat{ACB}) = 3\alpha - 20°$
$[BA] \perp [AC]$
$\Rightarrow \alpha = ?$

A) 15 B) 16 C) 20 D) 22 E) 25

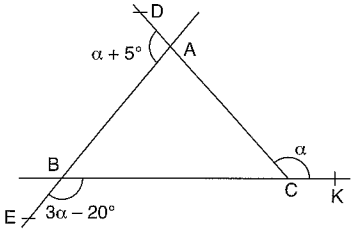
3.



$m(\widehat{DAB}) = 4\alpha$
$m(\widehat{ABC}) = \alpha$
$m(\widehat{DCB}) = 2\alpha + 25°$
$\Rightarrow \alpha = ?$

A) 5 B) $\frac{25}{3}$ C) $\frac{25}{2}$ D) 25 E) 50

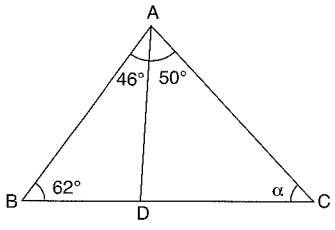
4.



$m(\widehat{DAE}) = \alpha + 5°$
$m(\widehat{EBK}) = 3\alpha - 20°$
$\Rightarrow m(\widehat{DCK}) = \alpha = ?$

A) 69 B) 72 C) 75 D) 78 E) 81

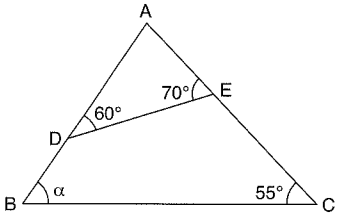
5.



$m(\widehat{ABC}) = 62°$
$m(\widehat{BAD}) = 46°$
$m(\widehat{DAC}) = 50°$
$\Rightarrow m(\widehat{ACB}) = \alpha = ?$

A) 12 B) 22 C) 28 D) 32 E) 38

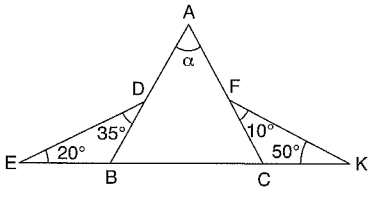
6.



$m(\widehat{ADE}) = 60°$
$m(\widehat{AED}) = 70°$
$m(\widehat{ACB}) = 55°$
$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 55 B) 60 C) 65 D) 70 E) 75

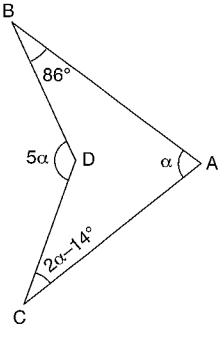
7.



$m(\widehat{EDB}) = 35°$
$m(\widehat{DEK}) = 20°$
$m(\widehat{CFK}) = 10°$
$m(\widehat{FKE}) = 50°$
$\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 45 B) 55 C) 65 D) 75 E) 85

8.

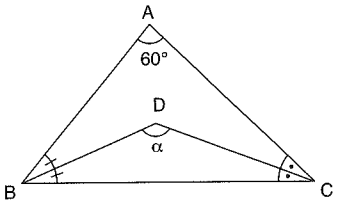


$m(\widehat{ABD}) = 86°$
$m(\widehat{ACD}) = 2\alpha - 14°$
$m(\widehat{BDC}) = 5\alpha$
$\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 26 B) 30 C) 32 D) 36 E) 42

PUZA YAYINLARI

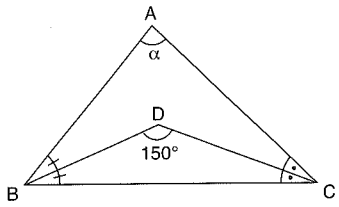
9.



$m(\widehat{BAC}) = 60°$
$m(\widehat{ABD}) = m(\widehat{DBC})$
$m(\widehat{ACD}) = m(\widehat{DCB})$
$\Rightarrow m(\widehat{BDC}) = \alpha = ?$

A) 90 B) 100 C) 120 D) 130 E) 150

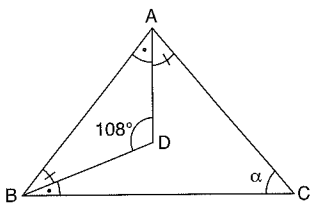
10.



$m(\widehat{BDC}) = 150°$
$m(\widehat{ABD}) = m(\widehat{DBC})$
$m(\widehat{ACD}) = m(\widehat{DCB})$
$\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 60 B) 90 C) 100 D) 120 E) 150

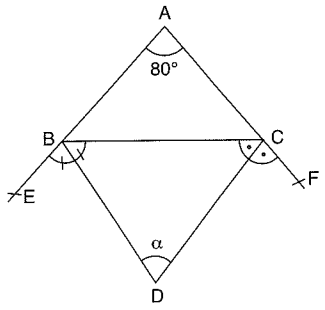
11.



$m(\widehat{ADB}) = 108°$
$m(\widehat{CAD}) = m(\widehat{ABD})$
$m(\widehat{DAB}) = m(\widehat{DBC})$
$\Rightarrow m(\widehat{ACB}) = \alpha = ?$

A) 18 B) 36 C) 72 D) 100 E) 108

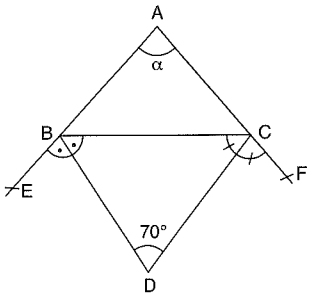
12.



$m(\widehat{EAF}) = 80°$
$m(\widehat{EBD}) = m(\widehat{DBC})$
$m(\widehat{BCD}) = m(\widehat{DCF})$
$\Rightarrow m(\widehat{BDC}) = \alpha = ?$

A) 130 B) 80 C) 70 D) 50 E) 40

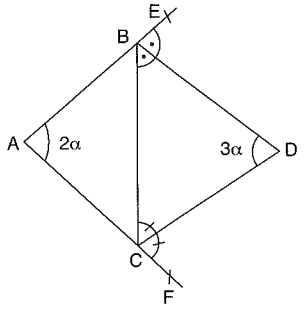
13.



$m(\widehat{BDC}) = 70°$
$m(\widehat{EBD}) = m(\widehat{DBC})$
$m(\widehat{BCD}) = m(\widehat{DCF})$
$\Rightarrow m(\widehat{EAF}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 50 E) 70

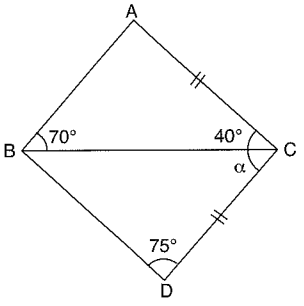
14.



$3m(\widehat{EAF}) = 2m(\widehat{BDC})$
$m(\widehat{CBD}) = m(\widehat{DBE})$
$m(\widehat{BCD}) = m(\widehat{DCF})$
$\Rightarrow \alpha = ?$

A) $\frac{45}{4}$ B) $\frac{45}{2}$ C) 45 D) 55 E) 60

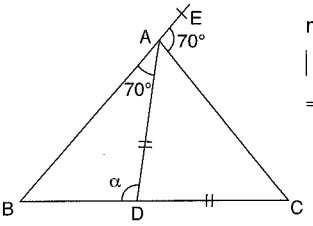
15.



$|AC| = |DC|$
$m(\widehat{ABC}) = 70°$
$m(\widehat{ACB}) = 40°$
$m(\widehat{BDC}) = 75°$
$\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 50 E) 75

16.



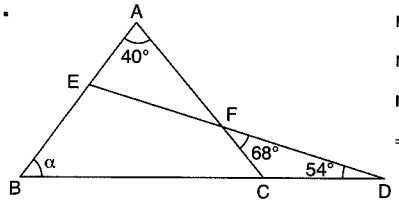
$m(\widehat{BAD}) = m(\widehat{EAC}) = 70°$
$|AD| = |DC|$
$\Rightarrow m(\widehat{ADB}) = \alpha = ?$

A) 40 B) 70 C) 80 D) 90 E) 100

PUZA YAYINLARI

www.ztcprep.com

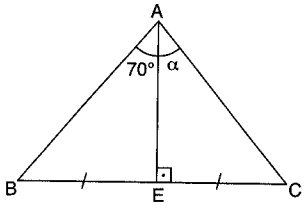
1.



$m(\widehat{BAC}) = 40°$
$m(\widehat{CFD}) = 68°$
$m(\widehat{EDB}) = 54°$
$\Rightarrow m(\widehat{ABD}) = \alpha = ?$

A) 18 B) 28 C) 34 D) 38 E) 40

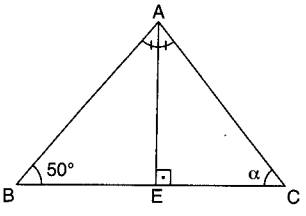
2.



$[AE] \perp [BC]$
$|BE| = |EC|$
$m(\widehat{BAE}) = 70°$
$\Rightarrow m(\widehat{EAC}) = \alpha = ?$

A) 20 B) 40 C) 50 D) 70 E) 80

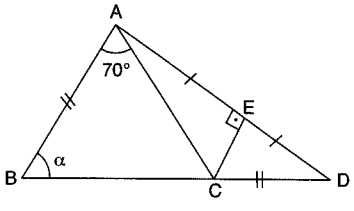
3.



$m(\widehat{BAE}) = m(\widehat{EAC})$
$[AE] \perp [BC]$
$m(\widehat{ABC}) = 50°$
$\Rightarrow m(\widehat{ACB}) = \alpha = ?$

A) 20 B) 40 C) 50 D) 60 E) 70

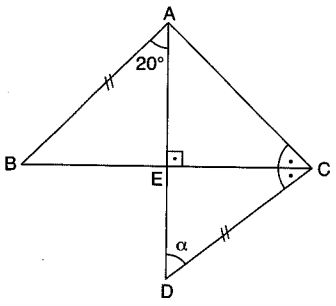
4.



$[CE] \perp [AD]$
$m(\widehat{BAC}) = 70°$
$|AB| = |CD|$
$|AE| = |ED|$
$\Rightarrow m(\widehat{ABD}) = \alpha = ?$

A) 45 B) 55 C) 65 D) 70 E) 80

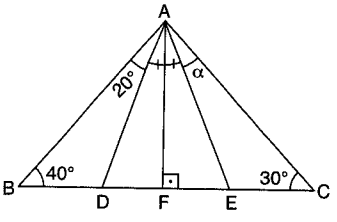
5.



$|AB| = |CD|$
$m(\widehat{BAD}) = 20°$
$m(\widehat{ACB}) = m(\widehat{BCD})$
$[AE] \perp [BC]$
$\Rightarrow m(\widehat{ADC}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 50 E) 70

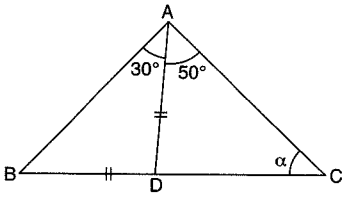
6.



$m(\widehat{BAD}) = 20°$
$m(\widehat{ABC}) = 40°$
$m(\widehat{ACB}) = 30°$
$m(\widehat{DAF}) = m(\widehat{FAE})$
$[AF] \perp [BC]$
$\Rightarrow m(\widehat{EAC}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 50 E) 60

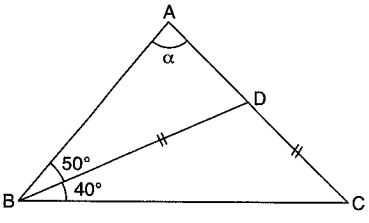
7.



$|AD| = |BD|$
$m(\widehat{BAD}) = 30°$
$m(\widehat{DAC}) = 50°$
$\Rightarrow m(\widehat{ACB}) = \alpha = ?$

A) 30 B) 50 C) 60 D) 70 E) 80

8.

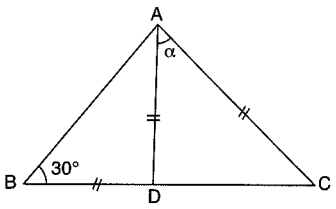


$m(\widehat{ABD}) = 50°$
$m(\widehat{DBC}) = 40°$
$|BD| = |DC|$
$\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 40 B) 50 C) 60 D) 80 E) 90

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

9.



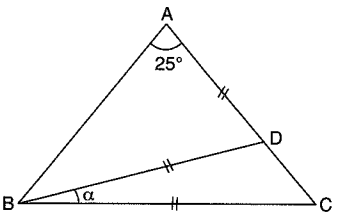
$m(\widehat{ABC}) = 30°$

$|BD| = |AD| = |AC|$

$\Rightarrow m(\widehat{DAC}) = \alpha = ?$

A) 30 B) 45 C) 60 D) 75 E) 90

10.



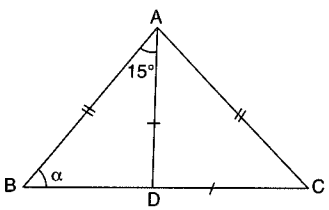
$|AD| = |BD| = |BC|$

$m(\widehat{BAC}) = 25°$

$\Rightarrow m(\widehat{DBC}) = \alpha = ?$

A) 25 B) 50 C) 60 D) 70 E) 80

11.



$m(\widehat{BAD}) = 15°$

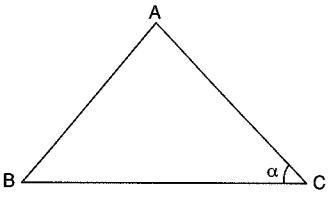
$|AB| = |AC|$

$|AD| = |DC|$

$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 45 B) 55 C) 60 D) 65 E) 75

12.



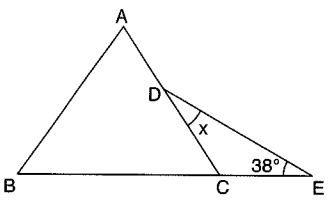
ABC eşkenar üçgen

ABC equilateral triangle

$\Rightarrow m(\widehat{ACB}) = \alpha = ?$

A) 30 B) 45 C) 60 D) 90 E) 120

13.



ABC eşkenar üçgen

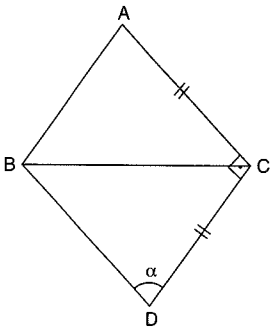
ABC equilateral triangle

$m(\widehat{BED}) = 38°$

$\Rightarrow m(\widehat{CDE}) = x = ?$

A) 58 B) 52 C) 28 D) 22 E) 18

14.



ABC eşkenar üçgen

ABC equilateral triangle

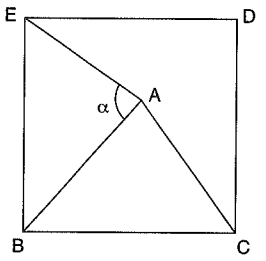
$|AC| = |CD|$

$[AC] \perp [DC]$

$\Rightarrow m(\widehat{BDC}) = \alpha = ?$

A) 30 B) 45 C) 60 D) 70 E) 75

15.



ABC eşkenar üçgen

ABC equilateral triangle

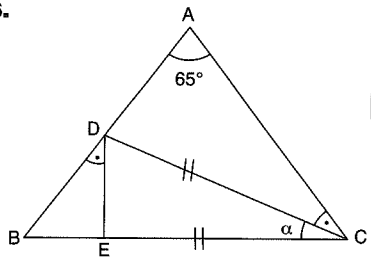
BCDE kare

BCDE square

$\Rightarrow m(\widehat{EAB}) = \alpha = ?$

A) 30 B) 45 C) 60 D) 70 E) 75

16.



$m(\widehat{BAC}) = 65°$

$m(\widehat{ACD}) = m(\widehat{BDE})$

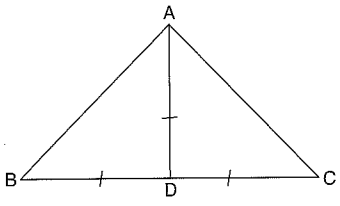
$|DC| = |EC|$

$\Rightarrow m(\widehat{DCB}) = \alpha = ?$

A) 40 B) 50 C) 60 D) 65 E) 75

PUZA YAYINLARI

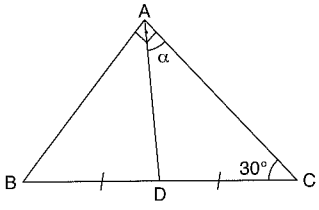
1.



$|AD| = |BD| = |DC|$
$\Rightarrow m(\widehat{BAC}) = ?$

A) 30 B) 45 C) 60 D) 90 E) 120

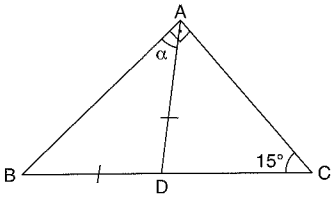
2.



$[AB] \perp [AC]$
$|BD| = |DC|$
$m(\widehat{ACB}) = 30°$
$\Rightarrow m(\widehat{DAC}) = \alpha = ?$

A) 15 B) 30 C) 45 D) 60 E) 75

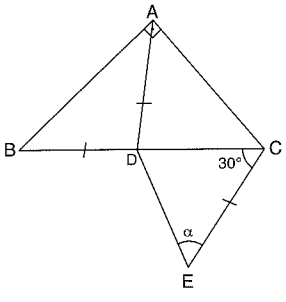
3.



$[AB] \perp [AC]$
$|AD| = |BD|$
$m(\widehat{ACB}) = 15°$
$\Rightarrow m(\widehat{BAD}) = \alpha = ?$

A) 15 B) 30 C) 45 D) 65 E) 75

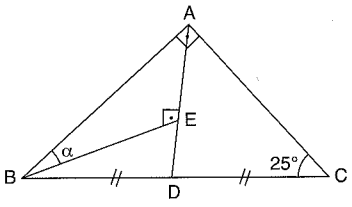
4.



$[AB] \perp [AC]$
$|AD| = |BD| = |EC|$
$m(\widehat{BCE}) = 30°$
$\Rightarrow m(\widehat{DEC}) = \alpha = ?$

A) 15 B) 30 C) 60 D) 75 E) 90

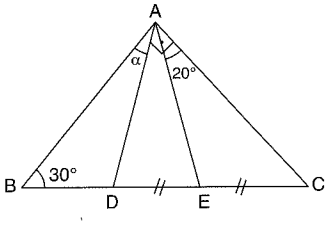
5.



$[AB] \perp [AC]$
$[AD] \perp [BE]$
$|BD| = |DC|$
$m(\widehat{ACB}) = 25°$
$\Rightarrow m(\widehat{ABE}) = \alpha = ?$

A) 25 B) 35 C) 45 D) 65 E) 75

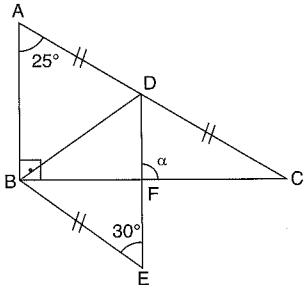
6.



$[AD] \perp [AC]$
$|DE| = |EC|$
$m(\widehat{ABC}) = 30°$
$m(\widehat{EAC}) = 20°$
$\Rightarrow m(\widehat{BAD}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 50 E) 60

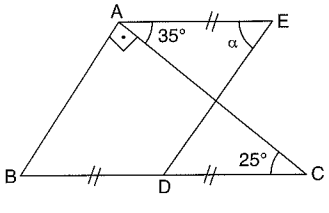
7.



$[AB] \perp [BC]$
$|AD| = |DC| = |BE|$
$m(\widehat{BAC}) = 25°$
$m(\widehat{BED}) = 30°$
$\Rightarrow m(\widehat{DFC}) = \alpha = ?$

A) 45 B) 55 C) 90 D) 95 E) 120

8.



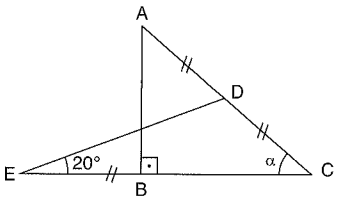
$[AB] \perp [AC]$
$|AE| = |BD| = |DC|$
$m(\widehat{EAC}) = 35°$
$m(\widehat{ACB}) = 25°$
$\Rightarrow m(\widehat{AED}) = \alpha = ?$

A) 25 B) 35 C) 50 D) 60 E) 70

PUZA YAYINLARI

www.ztcprep.com

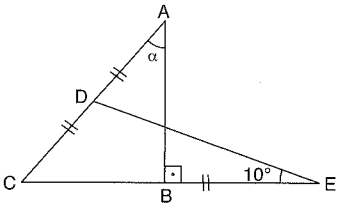
9.



[AB] ⊥ [EC]
$|AD| = |DC| = |EB|$
$m(\widehat{DEC}) = 20°$
$\Rightarrow m(\widehat{ECA}) = \alpha = ?$

A) 10 B) 20 C) 40 D) 50 E) 70

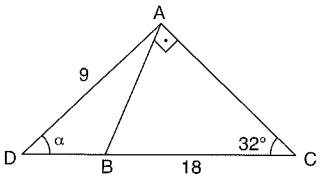
10.



[AB] ⊥ [EC]
$|AD| = |DC| = |BE|$
$m(\widehat{DEC}) = 10°$
$\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 5 B) 10 C) 20 D) 70 E) 80

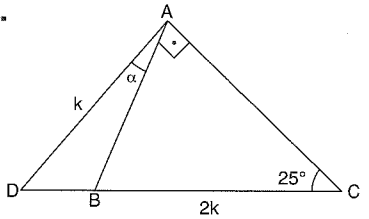
11.



[AB] ⊥ [AC]
$2|AD| = |BC| = 18$ br
$m(\widehat{ACD}) = 32°$
$\Rightarrow m(\widehat{ADC}) = \alpha = ?$

A) 16 B) 32 C) 58 D) 64 E) 74

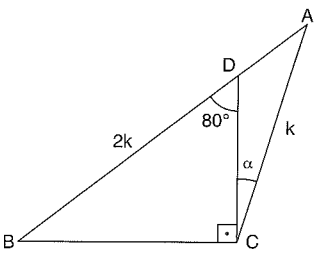
12.



[AB] ⊥ [AC]
$2|AD| = |BC|$
$m(\widehat{ACB}) = 25°$
$\Rightarrow m(\widehat{DAB}) = \alpha = ?$

A) 15 B) 20 C) 25 D) 40 E) 50

13.

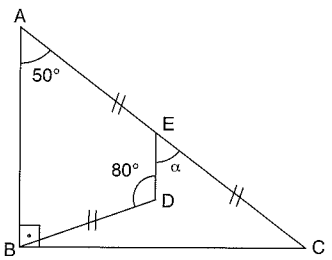


B, D, A doğrusal
B, D, A linear

[BC] ⊥ [DC]
$2|AC| = |BD|$
$m(\widehat{BDC}) = 80°$
$\Rightarrow m(\widehat{ACD}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 50 E) 60

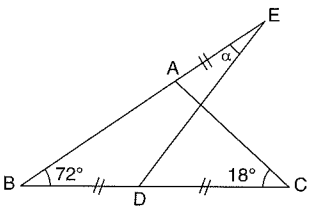
14.



[AB] ⊥ [BC]
$|AE| = |EC| = |BD|$
$m(\widehat{BAC}) = 50°$
$m(\widehat{BDE}) = 80°$
$\Rightarrow m(\widehat{DEC}) = \alpha = ?$

A) 20 B) 30 C) 35 D) 40 E) 50

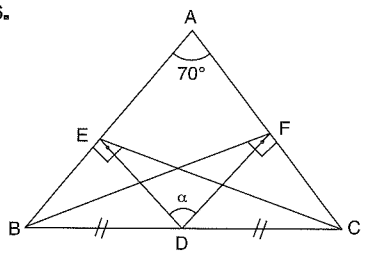
15.



$m(\widehat{EBC}) = 72°$
$m(\widehat{ACB}) = 18°$
$|BD| = |DC| = |AE|$
$\Rightarrow m(\widehat{BED}) = \alpha = ?$

A) 18 B) 32 C) 36 D) 44 E) 72

16.

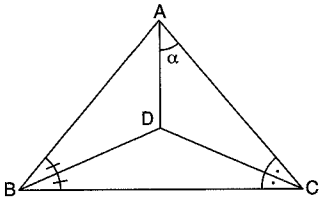


[BA] ⊥ [EC]
[BF] ⊥ [AC]
$|BD| = |DC|$
$m(\widehat{BAC}) = 70°$
$\Rightarrow m(\widehat{EDF}) = \alpha = ?$

A) 20 B) 40 C) 50 D) 70 E) 100

PUZA YAYINLARI

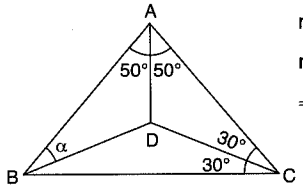
1.



$m(\widehat{BAC}) = 80°$
$m(\widehat{ABD}) = m(\widehat{DBC})$
$m(\widehat{BCD}) = m(\widehat{DCA})$
$\Rightarrow m(\widehat{DAC}) = \alpha = ?$

A) 20 B) 25 C) 30 D) 35 E) 40

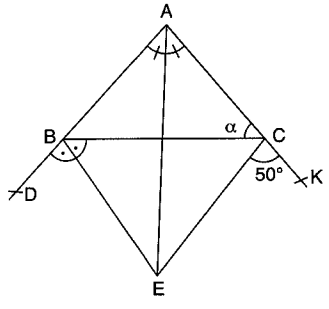
2.



$m(\widehat{BAD}) = m(\widehat{DAC}) = 50°$
$m(\widehat{ACD}) = m(\widehat{DCB}) = 30°$
$\Rightarrow m(\widehat{ABD}) = \alpha = ?$

A) 5 B) 10 C) 15 D) 20 E) 30

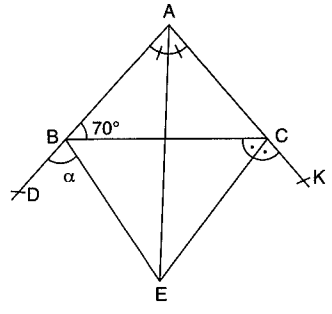
3.



$m(\widehat{DAE}) = m(\widehat{EAK})$
$m(\widehat{DBE}) = m(\widehat{EBC})$
$m(\widehat{ECK}) = 50°$
$\Rightarrow m(\widehat{BCA}) = \alpha = ?$

A) 40 B) 50 C) 70 D) 80 E) 90

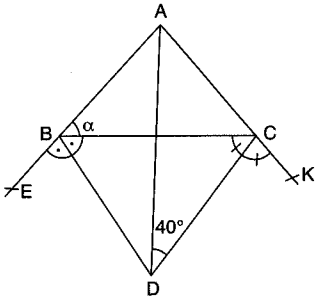
4.



$m(\widehat{DAE}) = m(\widehat{EAK})$
$m(\widehat{BCE}) = m(\widehat{ECK})$
$m(\widehat{ABC}) = 70°$
$\Rightarrow m(\widehat{DBE}) = \alpha = ?$

A) 40 B) 50 C) 55 D) 60 E) 65

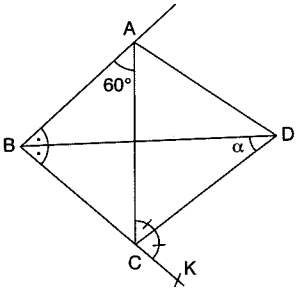
5.



$m(\widehat{EBD}) = m(\widehat{DBC})$
$m(\widehat{BCD}) = m(\widehat{DCK})$
$m(\widehat{ADC}) = 40°$
$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 20 B) 40 C) 50 D) 80 E) 100

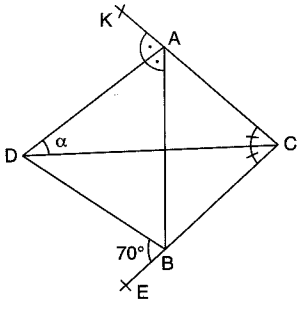
6.



$m(\widehat{BAC}) = 60°$
$m(\widehat{ABD}) = m(\widehat{DBK})$
$m(\widehat{ACD}) = m(\widehat{DCK})$
$\Rightarrow m(\widehat{BDC}) = \alpha = ?$

A) 120 B) 60 C) 45 D) 30 E) 15

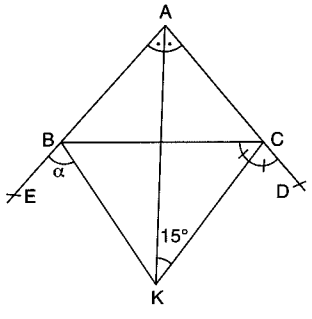
7.



$m(\widehat{KAD}) = m(\widehat{DAB})$
$m(\widehat{KCD}) = m(\widehat{DCE})$
$m(\widehat{DBE}) = 70°$
$\Rightarrow m(\widehat{ADC}) = \alpha = ?$

A) 10 B) 20 C) 40 D) 55 E) 110

8.

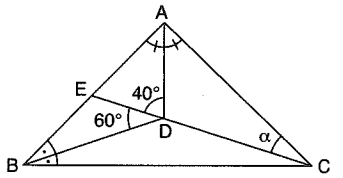


$m(\widehat{EAK}) = m(\widehat{KAD})$
$m(\widehat{BCK}) = m(\widehat{KCE})$
$m(\widehat{AKC}) = 15°$
$\Rightarrow m(\widehat{EBK}) = \alpha = ?$

A) 30 B) 45 C) 60 D) 75 E) 150

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

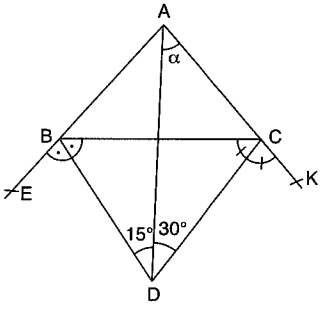
9.



$m(\widehat{BAD}) = m(\widehat{DAC})$
$m(\widehat{ABD}) = m(\widehat{DBC})$
$m(\widehat{ADE}) = 40°$
$m(\widehat{EDB}) = 60°$
$\Rightarrow m(\widehat{ACE}) = \alpha = ?$

A) 5 B) 10 C) 15 D) 20 E) 25

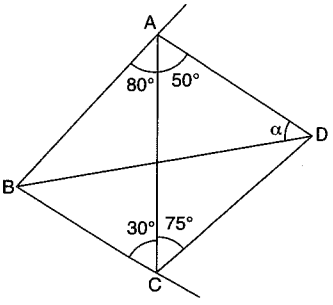
10.



$m(\widehat{EBD}) = m(\widehat{DBC})$
$m(\widehat{BCD}) = m(\widehat{DCK})$
$m(\widehat{BDA}) = 15°$
$m(\widehat{ADC}) = 30°$
$\Rightarrow m(\widehat{DAK}) = \alpha = ?$

A) 35 B) 40 C) 45 D) 50 E) 55

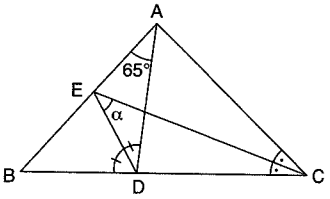
11.



$m(\widehat{BAC}) = 80°$
$m(\widehat{CAD}) = 50°$
$m(\widehat{BCA}) = 30°$
$m(\widehat{ACD}) = 75°$
$\Rightarrow m(\widehat{ADB}) = \alpha = ?$

A) 10 B) 15 C) 30 D) 40 E) 50

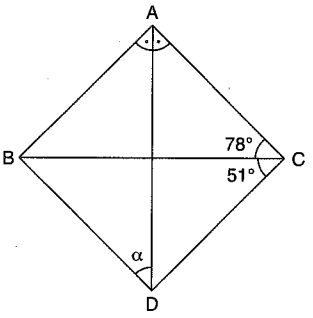
12.



$m(\widehat{ACE}) = m(\widehat{ECB})$
$m(\widehat{ADE}) = m(\widehat{EDB})$
$m(\widehat{BAD}) = 65°$
$\Rightarrow m(\widehat{DEC}) = \alpha = ?$

A) 130 B) 65 C) 50 D) 25 E) 20

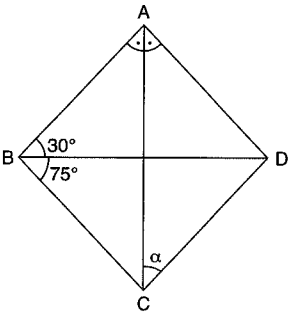
13.



$m(\widehat{BAD}) = m(\widehat{DAC})$
$m(\widehat{BCA}) = 78°$
$m(\widehat{BCD}) = 51°$
$\Rightarrow m(\widehat{BDA}) = \alpha = ?$

A) 28 B) 39 C) 56 D) 78 E) 90

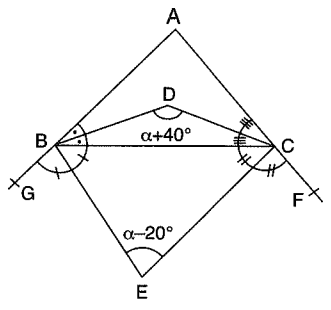
14.



$m(\widehat{BAC}) = m(\widehat{CAD})$
$m(\widehat{ABD}) = 30°$
$m(\widehat{DBC}) = 75°$
$\Rightarrow m(\widehat{ACD}) = \alpha = ?$

A) 150 B) 75 C) 60 D) 30 E) 15

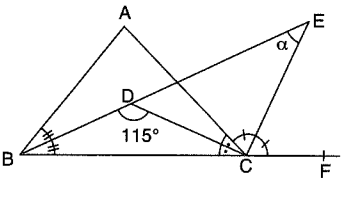
15.



$m(\widehat{ABD}) = m(\widehat{DBC})$
$m(\widehat{ACD}) = m(\widehat{DCB})$
$m(\widehat{CBE}) = m(\widehat{EBG})$
$m(\widehat{BCE}) = m(\widehat{ECF})$
$m(\widehat{BDC}) = \alpha + 40°$
$m(\widehat{BEC}) = \alpha - 20°$
$\Rightarrow m(\widehat{GAF}) = ?$

A) 30 B) 45 C) 60 D) 80 E) 90

16.

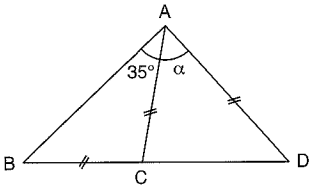


$m(\widehat{BDC}) = 115°$
$m(\widehat{ABE}) = m(\widehat{EBF})$
$m(\widehat{BCD}) = m(\widehat{DCA})$
$m(\widehat{ACE}) = m(\widehat{ECF})$
$\Rightarrow m(\widehat{BEC}) = \alpha = ?$

A) 15 B) 25 C) 30 D) 35 E) 40

PUZA YAYINLARI

1.



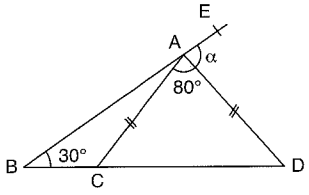
$|BC| = |CA| = |AD|$

$m(\widehat{BAC}) = 35°$

$\Rightarrow m(\widehat{CAD}) = \alpha = ?$

A) 40 B) 45 C) 50 D) 55 E) 60

2.



$|CA| = |AD|$

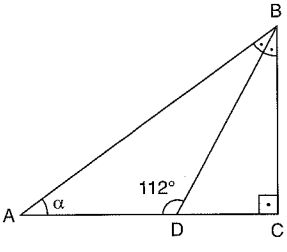
$m(\widehat{ABD}) = 30°$

$m(\widehat{CAD}) = 80°$

$\Rightarrow m(\widehat{EAD}) = \alpha = ?$

A) 55 B) 60 C) 65 D) 70 E) 80

3.



$[BC] \perp [AC]$

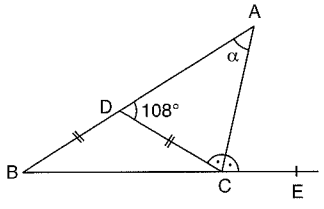
$m(\widehat{ABD}) = m(\widehat{DBC})$

$m(\widehat{ADB}) = 112°$

$\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 30 B) 38 C) 42 D) 46 E) 48

4.



$|BD| = |DC|$

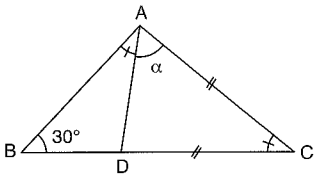
$m(\widehat{ADC}) = 108°$

$m(\widehat{DCA}) = m(\widehat{ACE})$

$\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 9 B) 18 C) 19 D) 20 E) 24

5.



$|AC| = |DC|$

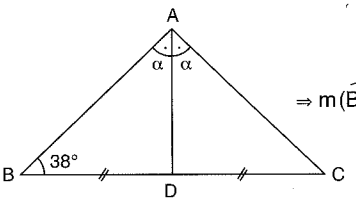
$m(\widehat{ABC}) = 30°$

$m(\widehat{BAD}) = m(\widehat{BCA})$

$\Rightarrow m(\widehat{DAC}) = \alpha = ?$

A) 110 B) 100 C) 80 D) 70 E) 60

6.



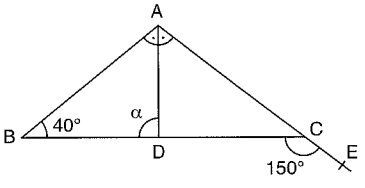
$|BD| = |DC|$

$m(\widehat{ABC}) = 38°$

$\Rightarrow m(\widehat{BAD}) = m(\widehat{DAC}) = \alpha = ?$

A) 32 B) 48 C) 46 D) 52 E) 90

7.



$m(\widehat{ABC}) = 40°$

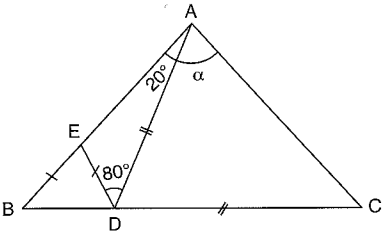
$m(\widehat{BCE}) = 150°$

$m(\widehat{BAD}) = m(\widehat{DAE})$

$\Rightarrow m(\widehat{BDA}) = \alpha = ?$

A) 60 B) 70 C) 75 D) 80 E) 85

8.



$|BE| = |ED|$

$|AD| = |DC|$

$m(\widehat{BAD}) = 20°$

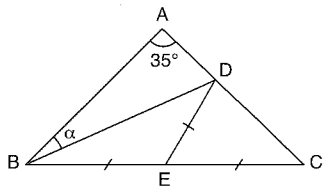
$m(\widehat{EDA}) = 80°$

$\Rightarrow m(\widehat{DAC}) = \alpha = ?$

A) 30 B) 40 C) 50 D) 60 E) 70

PUZA YAYINLARI

9.



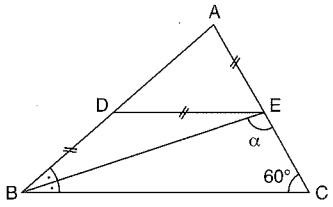
$|DE| = |BE| = |EC|$

$m(\widehat{BAC}) = 35°$

$\Rightarrow m(\widehat{ABD}) = \alpha = ?$

A) 40 B) 45 C) 50 D) 55 E) 60

10.



$|DE| = |AE| = |BD|$

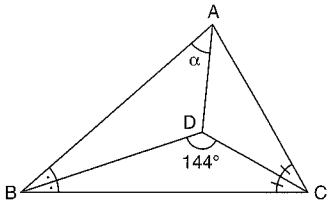
$m(\widehat{ABE}) = m(\widehat{EBC})$

$m(\widehat{BCA}) = 60°$

$\Rightarrow m(\widehat{BEC}) = \alpha = ?$

A) 90 B) 80 C) 70 D) 60 E) 50

11.



$m(\widehat{BDC}) = 144°$

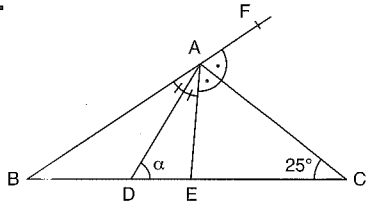
$m(\widehat{ABD}) = m(\widehat{DBC})$

$m(\widehat{BCD}) = m(\widehat{DCA})$

$\Rightarrow m(\widehat{BAD}) = \alpha = ?$

A) 48 B) 52 C) 54 D) 60 E) 62

12.



$m(\widehat{ACB}) = 25°$

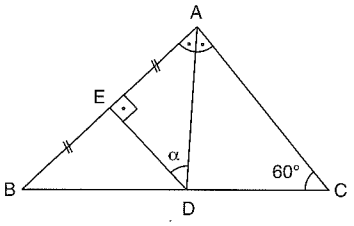
$m(\widehat{BAD}) = m(\widehat{DAE})$

$m(\widehat{FAC}) = m(\widehat{CAE})$

$\Rightarrow m(\widehat{ADC}) = \alpha = ?$

A) 35 B) 45 C) 50 D) 55 E) 65

13.



$|AE| = |EB|$

$[DE] \perp [AB]$

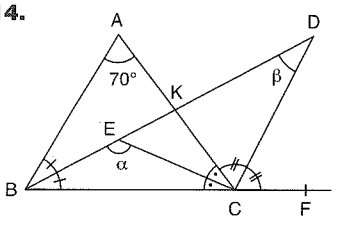
$m(\widehat{BCA}) = 60°$

$m(\widehat{BAD}) = m(\widehat{DAC})$

$\Rightarrow m(\widehat{EDA}) = \alpha = ?$

A) 60 B) 55 C) 50 D) 45 E) 40

14.



[BE], [CE], [CD] açıortay

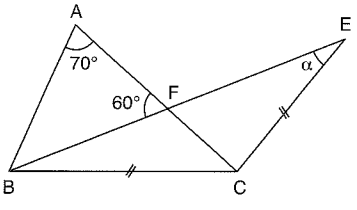
[BE], [CE], [CD] açıortay

$m(\widehat{BAC}) = 70°$

$\Rightarrow \alpha + \beta = ?$

A) 180 B) 175 C) 170 D) 165 E) 160

15.



$|AB| = |AC|$

$|BC| = |CE|$

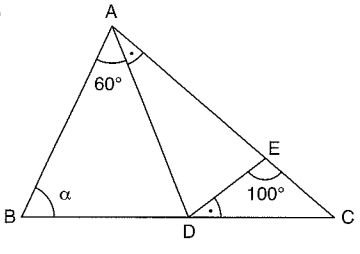
$m(\widehat{BAC}) = 70°$

$m(\widehat{BFA}) = 60°$

$\Rightarrow m(\widehat{BEC}) = \alpha = ?$

A) 5 B) 10 C) 15 D) 20 E) 25

16.



$m(\widehat{BAD}) = 60°$

$m(\widehat{DEC}) = 100°$

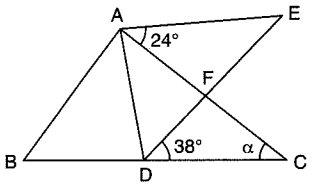
$m(\widehat{DAC}) = m(\widehat{EDC})$

$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 30 B) 40 C) 50 D) 60 E) 70

PUZA YAYINLARI

1.



ADE eşkenar üçgen

ADE equilateral triangle

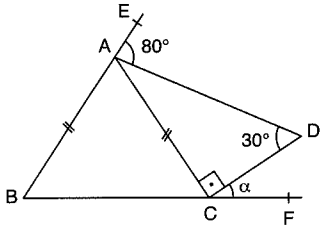
$m(\widehat{CAE}) = 24°$

$m(\widehat{EDC}) = 38°$

$\Rightarrow m(\widehat{BCA}) = \alpha = ?$

A) 40 B) 46 C) 48 D) 50 E) 52

2.



$[AC] \perp [CD]$

$|AB| = |AC|$

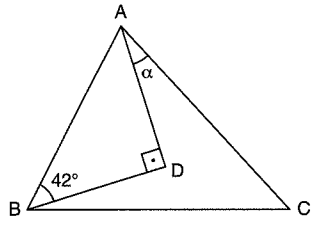
$m(\widehat{EAD}) = 80°$

$m(\widehat{ADC}) = 30°$

$\Rightarrow m(\widehat{DCF}) = \alpha = ?$

A) 20 B) 25 C) 30 D) 35 E) 40

3.



ABC eşkenar üçgen

ABC equilateral triangle

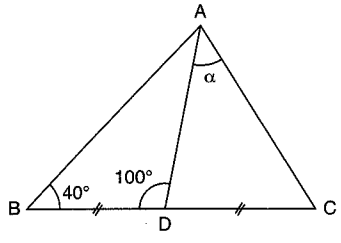
$[AD] \perp [DB]$

$m(\widehat{ABD}) = 42°$

$\Rightarrow m(\widehat{DAC}) = \alpha = ?$

A) 12 B) 16 C) 18 D) 20 E) 22

4.



$|BD| = |DC|$

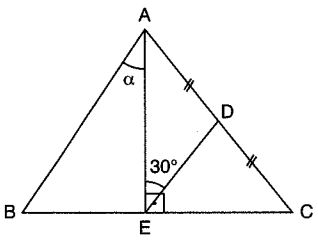
$m(\widehat{ABC}) = 40°$

$m(\widehat{ADB}) = 100°$

$\Rightarrow m(\widehat{DAC}) = \alpha = ?$

A) 35 B) 50 C) 55 D) 60 E) 70

5.



$|AB| = |AC|$

$|AD| = |DC|$

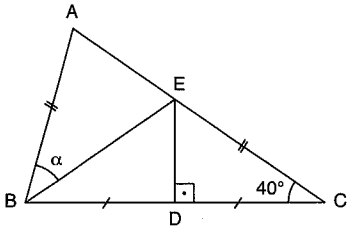
$[AE] \perp [BC]$

$m(\widehat{AED}) = 30°$

$\Rightarrow m(\widehat{BAE}) = \alpha = ?$

A) 25 B) 30 C) 35 D) 40 E) 45

6.



$|BA| = |EC|$

$|BD| = |DC|$

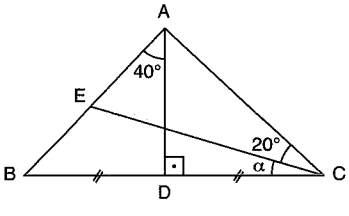
$[ED] \perp [BC]$

$m(\widehat{ACB}) = 40°$

$\Rightarrow m(\widehat{ABE}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 50 E) 60

7.



$|BD| = |DC|$

$[AD] \perp [BC]$

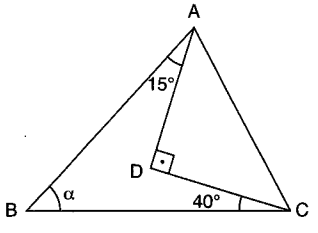
$m(\widehat{ACE}) = 20°$

$m(\widehat{BAD}) = 40°$

$\Rightarrow m(\widehat{ECB}) = \alpha = ?$

A) 10 B) 15 C) 20 D) 25 E) 30

8.



$[AD] \perp [DC]$

$m(\widehat{BAD}) = 15°$

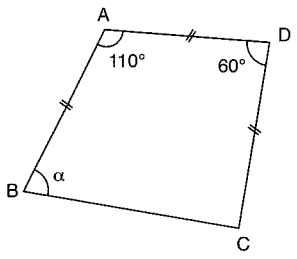
$m(\widehat{DCB}) = 40°$

$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 30 B) 35 C) 40 D) 45 E) 60

PUZA YAYINLARI

9.



$|BA| = |AD| = |DC|$

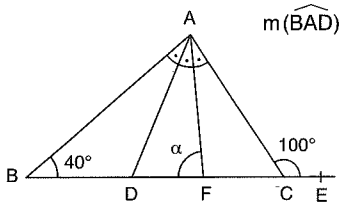
$m(\widehat{ADC}) = 60°$

$m(\widehat{BAD}) = 110°$

$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 45 B) 50 C) 55 D) 60 E) 65

10.



$m(\widehat{BAD}) = m(\widehat{DAF}) = m(\widehat{FAC})$

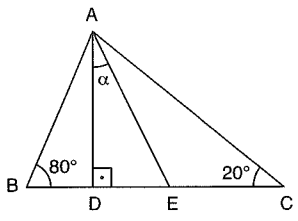
$m(\widehat{ABE}) = 40°$

$m(\widehat{ACE}) = 100°$

$\Rightarrow m(\widehat{AFB}) = \alpha = ?$

A) 40 B) 50 C) 60 D) 80 E) 100

11.



$[AD] \perp [BC]$

$m(\widehat{ACB}) = 20°$

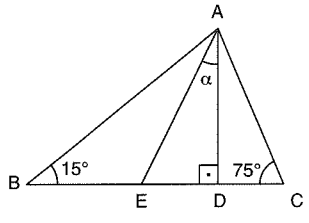
$m(\widehat{ABC}) = 80°$

$m(\widehat{BAE}) = m(\widehat{EAC})$

$\Rightarrow m(\widehat{DAE}) = \alpha = ?$

A) 20 B) 25 C) 30 D) 40 E) 50

12.



$[AD] \perp [BC]$

$m(\widehat{ABC}) = 15°$

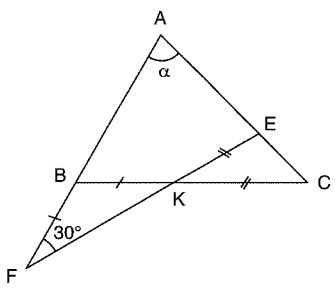
$m(\widehat{ACB}) = 75°$

$m(\widehat{BAE}) = m(\widehat{EAC})$

$\Rightarrow m(\widehat{EAD}) = \alpha = ?$

A) 30 B) 35 C) 40 D) 45 E) 50

13.



$|KE| = |KC|$

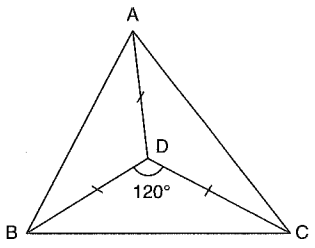
$|BK| = |BF|$

$m(\widehat{AFE}) = 30°$

$\Rightarrow m(\widehat{FAC}) = \alpha = ?$

A) 45 B) 50 C) 55 D) 60 E) 65

14.



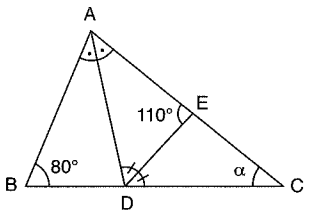
$|AD| = |BD| = |CD|$

$m(\widehat{BDC}) = 120°$

$\Rightarrow m(\widehat{BAC}) = ?$

A) 40 B) 60 C) 80 D) 90 E) 100

15.



[AD] ve [DE] açıortay

[AD] and [DE] açıortay

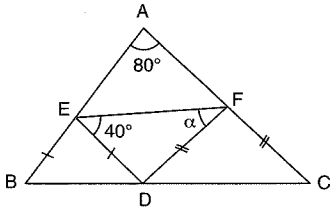
$m(\widehat{ABC}) = 80°$

$m(\widehat{AED}) = 110°$

$\Rightarrow m(\widehat{ACB}) = \alpha = ?$

A) 60 B) 55 C) 50 D) 45 E) 40

16.



$|BE| = |ED|$

$|DF| = |FC|$

$m(\widehat{BAC}) = 80°$

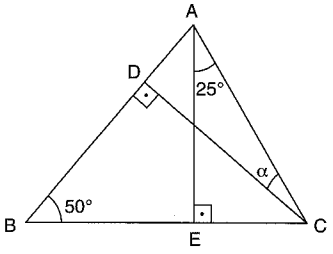
$m(\widehat{FED}) = 40°$

$\Rightarrow m(\widehat{EFD}) = \alpha = ?$

A) 40 B) 50 C) 60 D) 70 E) 80

PUZA YAYINLARI

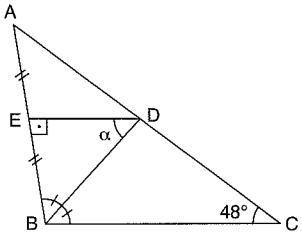
1.



$m(\widehat{EAC}) = 25°$
$m(\widehat{ABC}) = 50°$
$[BA] \perp [DC]$
$[AE] \perp [BC]$
$\Rightarrow m(\widehat{ACD}) = \alpha = ?$

A) 25 B) 30 C) 35 D) 40 E) 45

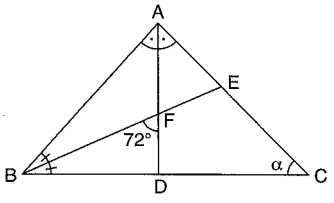
2.



$m(\widehat{ACB}) = 48°$
$[DE] \perp [AB]$
$m(\widehat{ABD}) = m(\widehat{DBC})$
$|AE| = |EB|$
$\Rightarrow m(\widehat{EDB}) = \alpha = ?$

A) 44 B) 46 C) 48 D) 52 E) 56

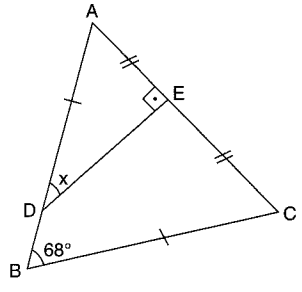
3.



$m(\widehat{BAD}) = m(\widehat{DAC})$
$m(\widehat{ABE}) = m(\widehat{EBC})$
$m(\widehat{BFD}) = 72°$
$\Rightarrow m(\widehat{ACB}) = \alpha = ?$

A) 32 B) 36 C) 46 D) 72 E) 78

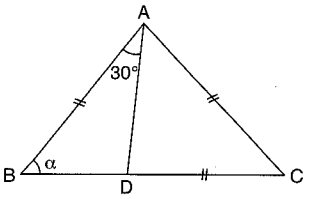
4.



$m(\widehat{ABC}) = 68°$
$[DE] \perp [AC]$
$|AE| = |EC|$
$|AD| = |BC|$
$\Rightarrow m(\widehat{ADE}) = x = ?$

A) 44 B) 46 C) 56 D) 66 E) 68

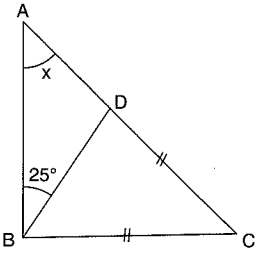
5.



$m(\widehat{BAD}) = 30°$
$|AC| = |DC| = |AB|$
$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 30 B) 40 C) 60 D) 70 E) 80

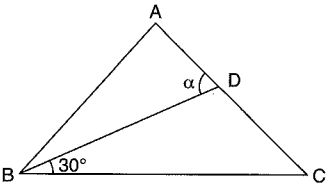
6.



$m(\widehat{ABD}) = 25°$
$|DC| = |BC|$
$[AB] \perp [BC]$
$\Rightarrow m(\widehat{BAC}) = x = ?$

A) 25 B) 30 C) 35 D) 40 E) 45

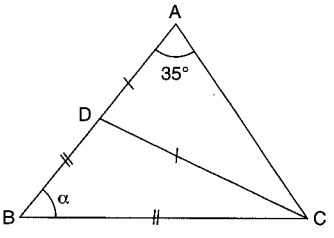
7.



$m(\widehat{DBC}) = 30°$
$|AB| = |AC|$
$|AD| = |BD|$
$\Rightarrow m(\widehat{ADB}) = \alpha = ?$

A) 40 B) 70 C) 90 D) 100 E) 110

8.



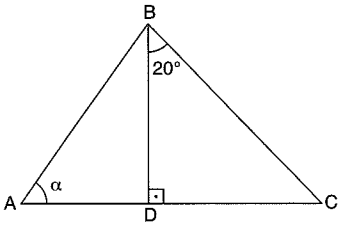
$m(\widehat{BAC}) = 35°$
$|AD| = |DC|$
$|BD| = |BC|$
$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 20 B) 40 C) 60 D) 80 E) 100

PUZA YAYINLARI

www.ztcprep.com

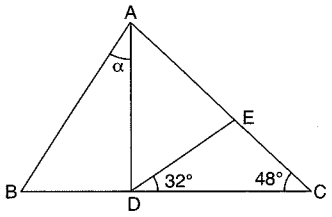
9.



$m(\widehat{DBC}) = 20°$
$[BD] \perp [AC]$
$|AB| = |AC|$
$\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 20 B) 40 C) 50 D) 60 E) 70

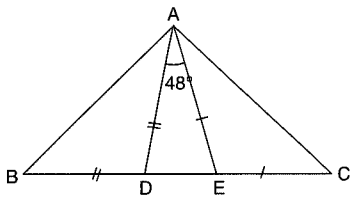
10.



$m(\widehat{EDC}) = 32°$
$m(\widehat{ACB}) = 48°$
$|AE| = |AD| = |AB|$
$\Rightarrow m(\widehat{BAD}) = \alpha = ?$

A) 44 B) 46 C) 54 D) 64 E) 68

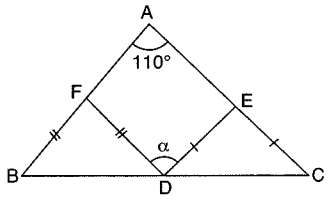
11.



$m(\widehat{DAE}) = 48°$
$|AD| = |BD|$
$|AE| = |EC|$
$\Rightarrow m(\widehat{BAC}) = ?$

A) 64 B) 66 C) 104 D) 114 E) 124

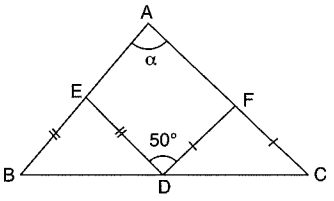
12.



$m(\widehat{BAC}) = 110°$
$|BF| = |FD|$
$|DE| = |EC|$
$\Rightarrow m(\widehat{FDE}) = \alpha = ?$

A) 40 B) 70 C) 110 D) 120 E) 130

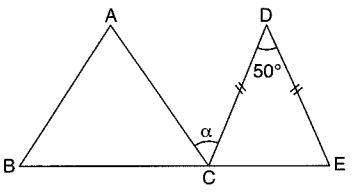
13.



$m(\widehat{EDF}) = 50°$
$|BE| = |ED|$
$|DF| = |FC|$
$\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 40 B) 50 C) 80 D) 100 E) 130

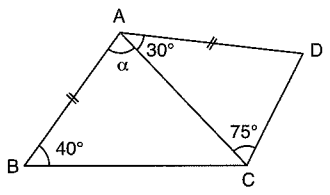
14.



ABC eşkenar üçgen
ABC equilateral triangle
$m(\widehat{CDE}) = 50°$
$|DC| = |DE|$
$\Rightarrow m(\widehat{ACD}) = \alpha = ?$

A) 50 B) 55 C) 60 D) 65 E) 70

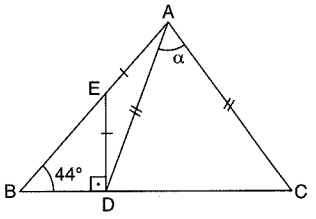
15.



$|AB| = |AD|$
$m(\widehat{ABC}) = 40°$
$m(\widehat{CAD}) = 30°$
$m(\widehat{ACD}) = 75°$
$\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 80 B) 95 C) 100 D) 110 E) 120

16.

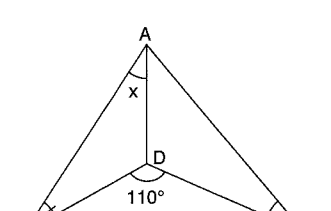


$m(\widehat{ABC}) = 44°$
$|AE| = |ED|$
$|AD| = |AC|$
$[ED] \perp [BC]$
$\Rightarrow m(\widehat{DAC}) = \alpha = ?$

A) 23 B) 44 C) 46 D) 48 E) 56

PUZA YAYINLARI

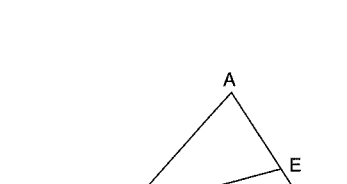
1.



$m(\widehat{ABD}) = m(\widehat{DBC})$
$m(\widehat{ACD}) = m(\widehat{DCB})$
$m(\widehat{BDC}) = 110°$
$\Rightarrow m(\widehat{BAD}) = x = ?$

A) 20 B) $\frac{55}{2}$ C) 40 D) 55 E) 70

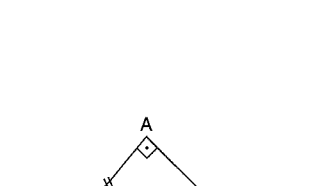
2.



$m(\widehat{ABC}) = 44°$
$m(\widehat{ACD}) = 66°$
$|AF| = |FE|$
$\Rightarrow m(\widehat{EDC}) = \alpha = ?$

A) 4 B) 8 C) 12 D) 16 E) 20

3.



$[AB] \perp [AC]$
$m(\widehat{ABC}) = 38°$
$|AD| = |BE| = |EC|$
$\Rightarrow m(\widehat{DEB}) = \alpha = ?$

A) 23 B) 28 C) 33 D) 38 E) 43

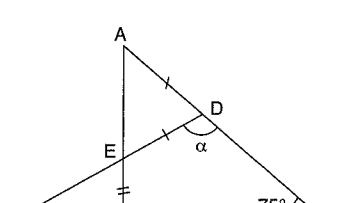
4.



$m(\widehat{BAC}) = 86°$
$[DE] \perp [BC]$
$|BE| = |EC|$
$|AB| = |DC|$
$\Rightarrow m(\widehat{DCE}) = x = ?$

A) 43 B) 46 C) 56 D) 66 E) 68

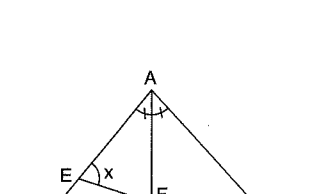
5.



$m(\widehat{ACF}) = 75°$
$|AD| = |DE|$
$|EB| = |BF|$
$\Rightarrow m(\widehat{FDC}) = \alpha = ?$

A) 65 B) 70 C) 75 D) 80 E) 85

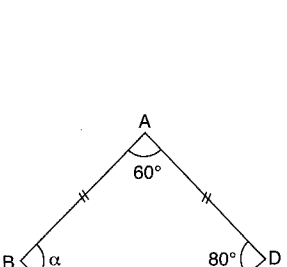
6.



$m(\widehat{ABC}) = 80°$
$m(\widehat{ACE}) = 20°$
$m(\widehat{BAD}) = m(\widehat{DAC})$
$|BD| = |DC|$
$\Rightarrow m(\widehat{AEC}) = x = ?$

A) 90 B) 100 C) 110 D) 120 E) 140

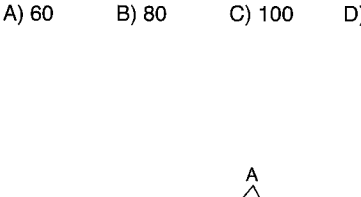
7.



$m(\widehat{BAD}) = 60°$
$m(\widehat{ADC}) = 80°$
$|AB| = |AD| = |DC|$
$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 60 B) 80 C) 100 D) 130 E) 140

8.

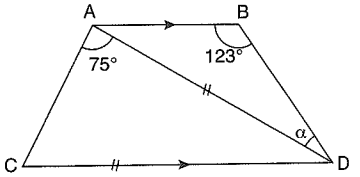


$|DE| = |EC|$
$|DB| = |BE|$
$m(\widehat{AEC}) = 78°$
$\Rightarrow m(\widehat{ECD}) = \alpha = ?$

A) 22 B) 24 C) 26 D) 28 E) 30

PUZA YAYINLARI

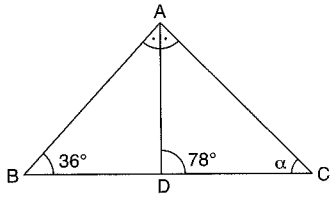
9.



[AB]//[CD]
$m(\widehat{ABD}) = 123°$
$m(\widehat{CAD}) = 75°$
$|AD| = |CD|$
$\Rightarrow m(\widehat{BDA}) = \alpha = ?$

A) 27 B) 30 C) 33 D) 37 E) 40

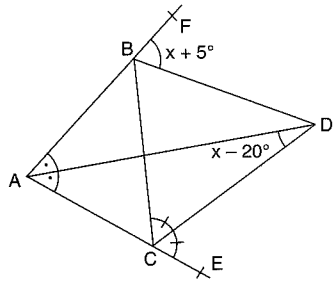
10.



$m(\widehat{ABC}) = 36°$
$m(\widehat{ADC}) = 78°$
$m(\widehat{BAD}) = m(\widehat{DAC})$
$\Rightarrow m(\widehat{ACB}) = \alpha = ?$

A) 36 B) 40 C) 48 D) 60 E) 68

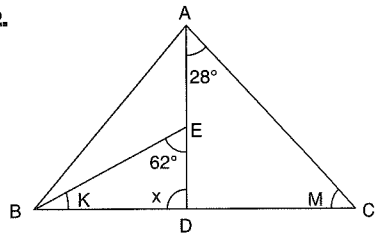
11.



$m(\widehat{DBF}) = x + 5°$
$m(\widehat{ADC}) = x - 20°$
$m(\widehat{FAD}) = m(\widehat{DAE})$
$m(\widehat{BCD}) = m(\widehat{DCE})$
$\Rightarrow m(\widehat{CBD}) = ?$

A) 47,5 B) 50 C) 52,5 D) 55 E) 57,5

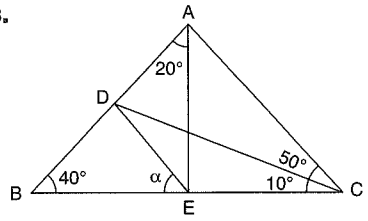
12.



$m(\widehat{DAC}) = 28°$
$m(\widehat{BED}) = 62°$
$m(\widehat{EBC}) = K$
$m(\widehat{ACB}) = M$
$K - M = 16°$
$\Rightarrow m(\widehat{ADB}) = x = ?$

A) 27 B) 37 C) 45 D) 65 E) 68

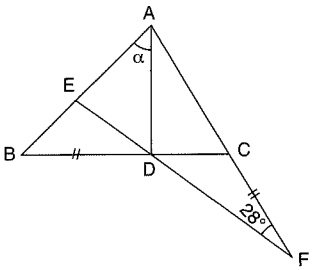
13.



$m(\widehat{BAE}) = 20°$
$m(\widehat{ABC}) = 40°$
$m(\widehat{ACD}) = 50°$
$m(\widehat{DCB}) = 10°$
$\Rightarrow m(\widehat{DEB}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 50 E) 60

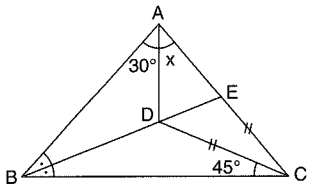
14.



ABC eşkenar üçgen
ABC equilateral triangle
$m(\widehat{AFE}) = 28°$
$|BD| = |CF|$
$\Rightarrow m(\widehat{BAD}) = \alpha = ?$

A) 28 B) 32 C) 38 D) 40 E) 48

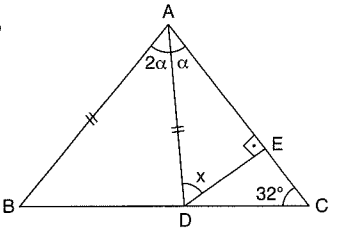
15.



$m(\widehat{BAD}) = 30°$
$m(\widehat{DCB}) = 45°$
$|EC| = |DC|$
$m(\widehat{ABE}) = m(\widehat{EBC})$
$\Rightarrow m(\widehat{DAE}) = x = ?$

A) 5 B) 10 C) 15 D) 20 E) 25

16.

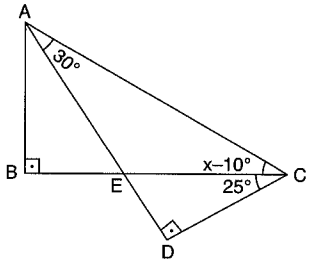


$m(\widehat{BAD}) = 2 \cdot m(\widehat{DAC})$
$|AB| = |AD|$
$[DE] \perp [AC]$
$m(\widehat{ACB}) = 32°$
$\Rightarrow m(\widehat{ADE}) = x = ?$

A) 32 B) 37 C) 61 D) 60 E) 66

www.ztcprep.com

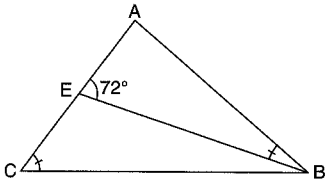
1.



$m(\widehat{DAC}) = 30°$
$m(\widehat{ACB}) = x - 10°$
$m(\widehat{BCD}) = 25°$
$[AB] \perp [BC]$
$[AD] \perp [DC]$
$\Rightarrow x = ?$

A) 25 B) 35 C) 45 D) 50 E) 65

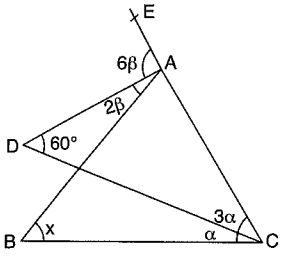
2.



$m(\widehat{ACB}) = m(\widehat{ABE})$
$m(\widehat{AEB}) = 72°$
$\Rightarrow m(\widehat{ABC}) = ?$

A) 18 B) 36 C) 72 D) 108 E) 144

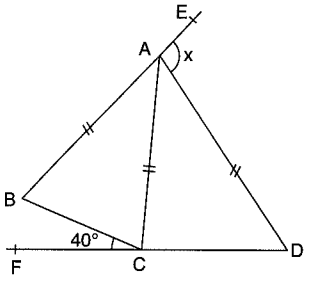
3.



$3m(\widehat{DAB}) = m(\widehat{DAE}) = 6\beta$
$m(\widehat{ECD}) = 3m(\widehat{DCB}) = 3\alpha$
$m(\widehat{ADC}) = 60°$
$\Rightarrow m(\widehat{ABC}) = x = ?$

A) 70 B) 80 C) 90 D) 100 E) 110

4.

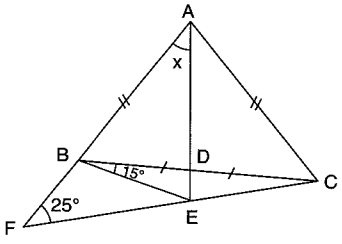


$|AB| = |AC| = |AD|$
$m(\widehat{BCF}) = 40°$
$\Rightarrow m(\widehat{EAD}) = x = ?$

A) 40 B) 60 C) 80 D) 100 E) 120

PUZA YAYINLARI

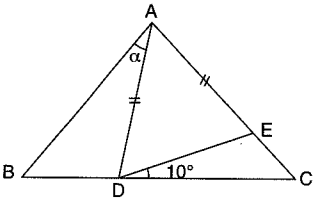
5.



$|AB| = |AC|$
$|BD| = |DC|$
$m(\widehat{AFC}) = 25°$
$m(\widehat{EBC}) = 15°$
$\Rightarrow m(\widehat{FAE}) = x = ?$

A) 15 B) 25 C) 40 D) 50 E) 60

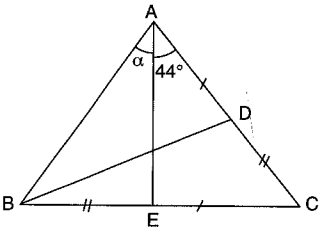
6.



ABC eşkenar üçgen
ABC equilateral triangle
$|AD| = |AE|$
$m(\widehat{EDC}) = 10°$
$\Rightarrow m(\widehat{BAD}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 50 E) 60

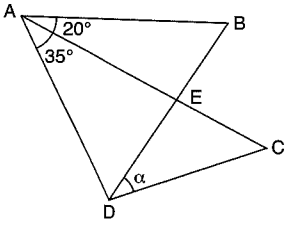
7.



$|AD| = |EC| = |AE|$
$|DC| = |BE|$
$m(\widehat{EAC}) = 44°$
$\Rightarrow m(\widehat{BAE}) = \alpha = ?$

A) 12 B) 22 C) 24 D) 28 E) 32

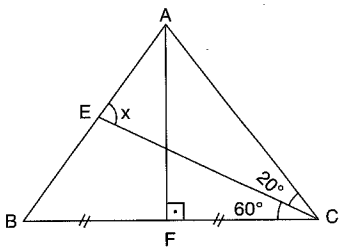
8.



$|BD| = |AD| = |AC|$
$m(\widehat{CAB}) = 20°$
$m(\widehat{CAD}) = 35°$
$\Rightarrow m(\widehat{BDC}) = \alpha = ?$

A) 2,5 B) 3 C) 4 D) 5 E) 7,5

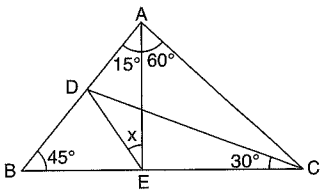
9.



$[AF] \perp [BC]$
$m(\widehat{ACE}) = 20°$
$m(\widehat{ECB}) = 60°$
$|BF| = |FC|$
$\Rightarrow m(\widehat{AEC}) = x = ?$

A) 80 B) 100 C) 120 D) 140 E) 160

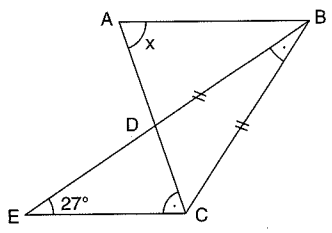
10.



$m(\widehat{BAE}) = 15°$
$m(\widehat{EAC}) = 60°$
$m(\widehat{ABC}) = 45°$
$m(\widehat{DCB}) = 30°$
$\Rightarrow m(\widehat{DEA}) = x = ?$

A) 15 B) 20 C) 25 D) 30 E) 35

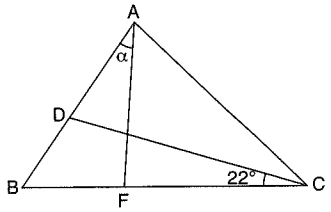
11.



$|AB| = |AC|$
$|BD| = |BC|$
$m(\widehat{BEC}) = 27°$
$m(\widehat{EBC}) = m(\widehat{ACE})$
$\Rightarrow m(\widehat{BAC}) = x = ?$

A) 24 B) 25 C) 27 D) 31 E) 42

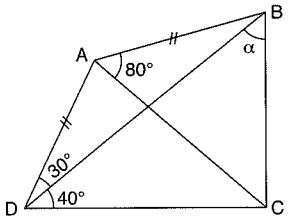
12.



$m(\widehat{DCB}) = 22°$
$|AC| = |AF| = |AD|$
$\Rightarrow m(\widehat{BAF}) = \alpha = ?$

A) 11 B) 22 C) 33 D) 44 E) 55

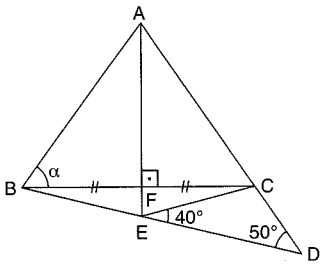
13.



$|AB| = |AD|$
$m(\widehat{BAC}) = 80°$
$m(\widehat{ADB}) = 30°$
$m(\widehat{BDC}) = 40°$
$\Rightarrow m(\widehat{DBC}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 50 E) 60

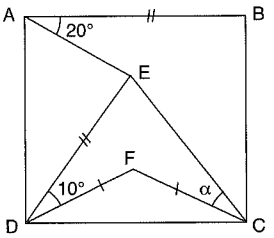
14.



$|BF| = |FC|$
$[AF] \perp [BC]$
$m(\widehat{CED}) = 40°$
$m(\widehat{ADB}) = 50°$
$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 20 B) 40 C) 50 D) 70 E) 80

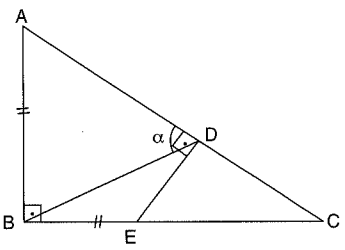
15.



ABCD kare
ABCD square
$|DF| = |FC|$
$|AB| = |DE|$
$m(\widehat{BAE}) = 20°$
$m(\widehat{EDF}) = 10°$
$\Rightarrow m(\widehat{ECF}) = \alpha = ?$

A) 10 B) 25 C) 40 D) 50 E) 80

16.

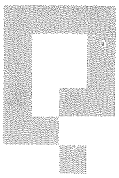


$|AB| = |BE|$
$[AC] \perp [DE]$
$[AB] \perp [BC]$
$\Rightarrow m(\widehat{ADB}) = \alpha = ?$

A) 30 B) 45 C) 60 D) 75 E) 80

PUZA YAYINLARI

ZTC زنگنه مجموعه موسسات



ÜÇGENDE AÇILAR ANGLES OF TRIANGLE

Yanıt Anahtarı Answer Key

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	B	A	D	A	D	B	A	E	C	E	D	C	E	B	D

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	B	D	C	B	E	C	D	C	D	B	D	C	B	B	C

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	D	C	B	A	B	D	B	C	E	B	C	D	E	E	B

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	B	E	D	A	C	D	D	C	D	D	A	E	A	C	B

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	B	D	C	D	D	B	D	B	C	B	D	B	E	C	B

TEST 6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	E	D	A	D	D	E	D	D	A	C	E	C	E	A	B

TEST 7

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	A	A	B	B	A	E	B	E	E	C	A	A	B	A	C

TEST 8

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	B	B	C	B	D	D	B	B	A	D	C	B	B	C	C

TEST 9

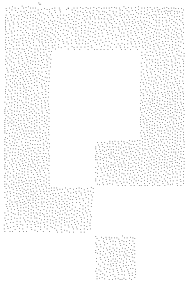
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	A	C	A	B	E	E	C	A	D	E	D	C	B	C	C

TEST 10

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	C	B	D	D	A	C	A	D	A	E	D	A	D	B	B

www.ztcprep.com

ZTC زنگنه
مجموعه موسسات

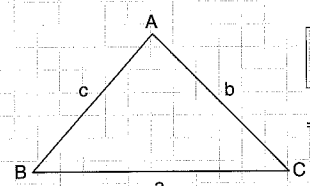


AÇI-KENAR BAĞINTILAR

ANGLE-SIDE RELATIONSHIPS

www.ztcprep.com

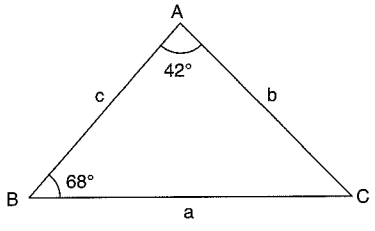
ÖZELLİK|Property 1°



$m(\widehat{A}) > m(\widehat{B}) > m(\widehat{C})$

$\Rightarrow$ $a > b > c$

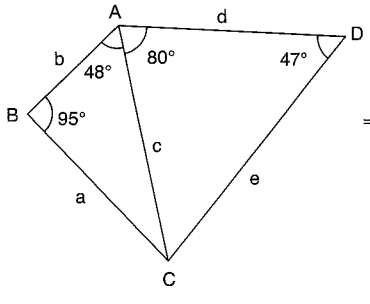
1.



$\Rightarrow ? < ? < ?$

$a < b < c$

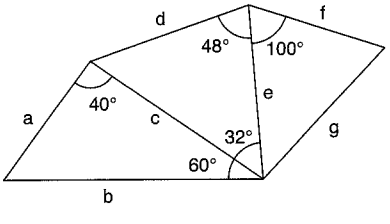
2.



$\Rightarrow ? < ? < ? < ? < ?$

$b < a < c < d < e$

3.

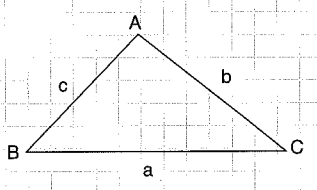


En uzun kenar hangisidir?

Which side is the longest?

g

ÖZELLİK|Property 2

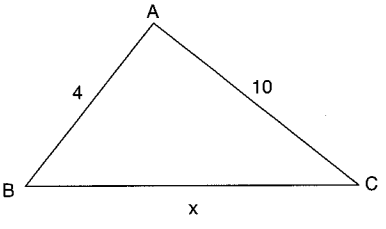


$|b-c| < a < b+c$

$|a-c| < b < a+c$

$|a-b| < c < a+b$

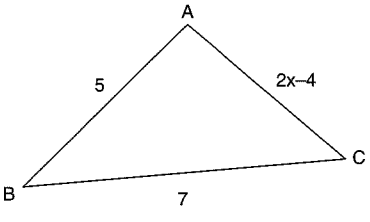
1.



$\Rightarrow ? < x < ?$

$6 < x < 14$

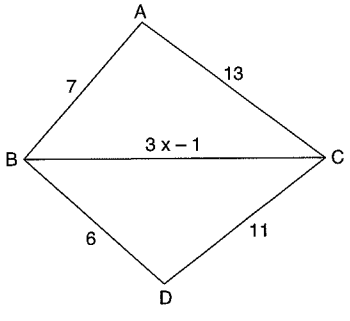
2.



$\Rightarrow ? < x < ?$

$3 < x < 8$

3.

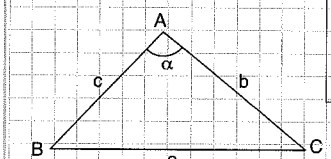


$\Rightarrow ? < x < ?$

$\frac{7}{3} < x < 6$

PUZA YAYINLARI

ÖZELLİK | Property 3

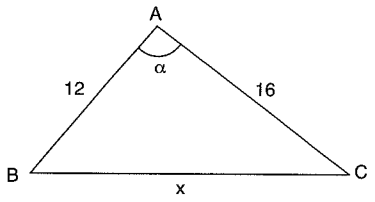


$\alpha = 90° \Rightarrow a^2 = b^2 + c^2$

$\alpha > 90° \Rightarrow a^2 > b^2 + c^2$

$\alpha < 90° \Rightarrow a^2 < b^2 + c^2$

1.

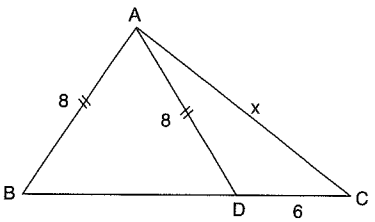


$\alpha < 90°$

$\Rightarrow ? < x < ?$

4 < x < 20

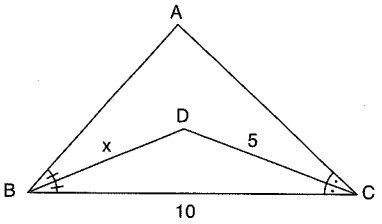
2.



$\Rightarrow ? < x < ?$

10 < x < 14

3.

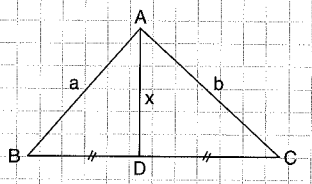


$x \in N$

$\Rightarrow \max(x) = ?$

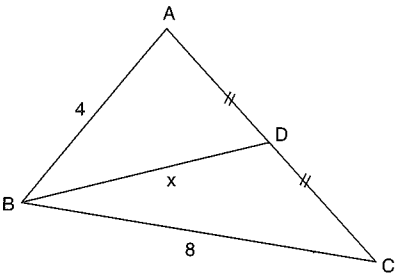
8

ÖZELLİK | Property 4



$$\frac{|a-b|}{2} < x < \frac{a+b}{2}$$

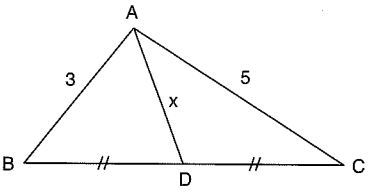
1.



$\Rightarrow ? < x < ?$

2 < x < 6

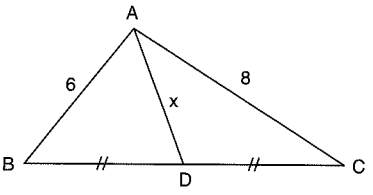
2.



$\Rightarrow ? < x < ?$

1 < x < 4

3.



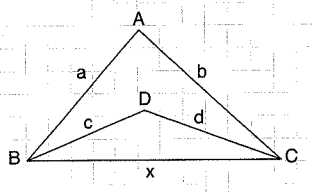
$m(\widehat{A}) > 90°$

$\Rightarrow ? < x < ?$

1 < x < 5

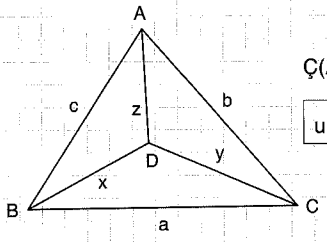
PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

ÖZELLİK | Property 5



$x < c + d < a + b$

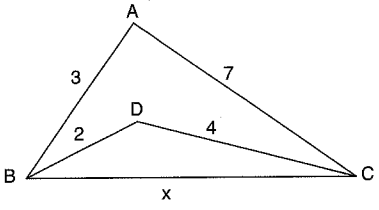
ÖZELLİK | Property 6



$Ç(ABC) = 2u = a + b + c$

$u < x + y + z < 2u$

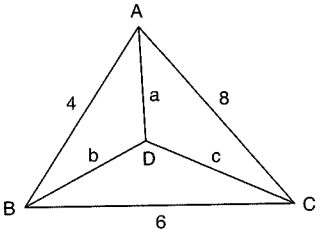
1.



$\Rightarrow ? < x < ?$

$4 < x < 6$

1.

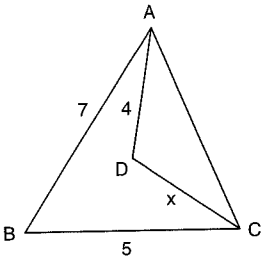


$(a + b + c) \in Z$

$\Rightarrow \max(a + b + c) = ?$

17

2.

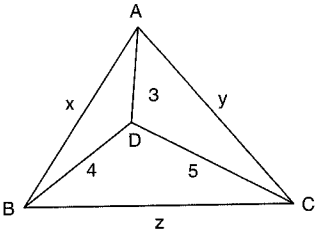


$x \in Z$

$\Rightarrow \max(x) = ?$

7

2.

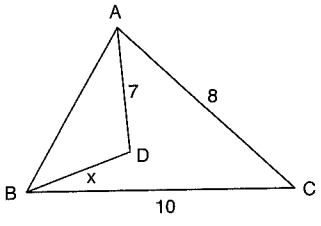


$(x + y + z) \in Z$

$\Rightarrow \min(x + y + z) = ?$

13

3.

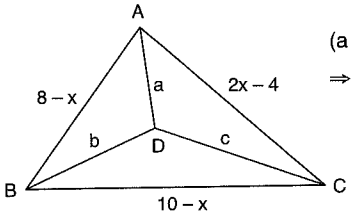


$x \in Z$

$\Rightarrow \max(x) = ?$

10

3.



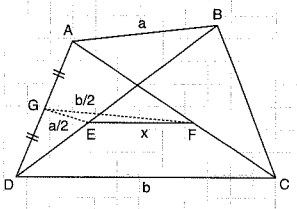
$(a + b + c) \in Z$

$\Rightarrow \max(a + b + c) = ?$

13

PUZA YAYINLARI

ÖZELLİK|Property 7

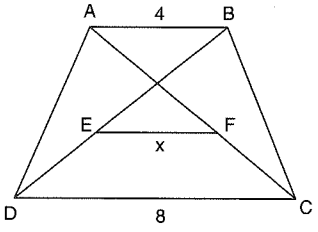


$|AF| = |FC|$

$|BE| = |ED|$

$$\frac{|a-b|}{2} < x < \frac{a+b}{2}$$

1.



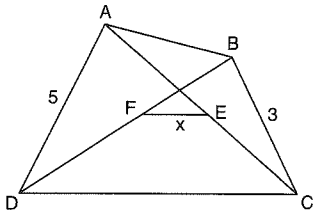
$|AF| = |FC|$

$|BE| = |ED|$

$\Rightarrow ? < x < ?$

$2 < x < 6$

2.



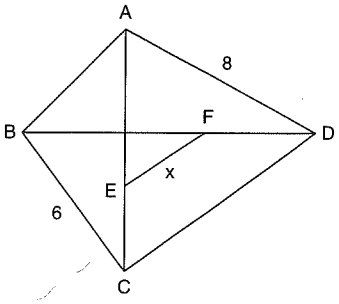
$|AE| = |EC|$

$|DF| = |FB|$

$\Rightarrow ? < x < ?$

$1 < x < 4$

3.



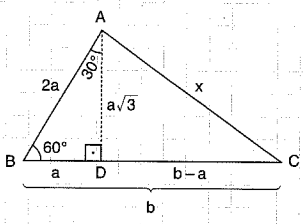
$|BF| = |FD|$

$|AE| = |EC|$

$\Rightarrow ? < x < ?$

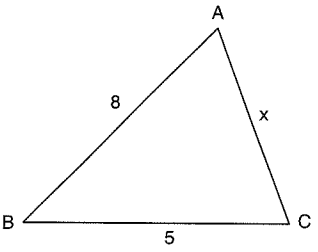
$1 < x < 7$

ÖZELLİK|Property 8



$$m(\widehat{B}) = 60° \quad x^2 = (a\sqrt{3})^2 + |b-a|^2$$
$$m(\widehat{B}) > 60° \quad x^2 > (a\sqrt{3})^2 + |b-a|^2$$
$$m(\widehat{B}) < 60° \quad x^2 < (a\sqrt{3})^2 + |b-a|^2$$

1.

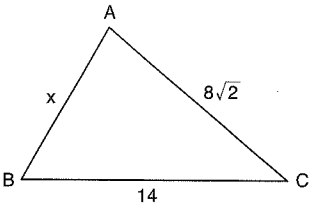


$m(\widehat{B}) < 60°$

$\Rightarrow ? < x < ?$

$3 < x < 7$

2.



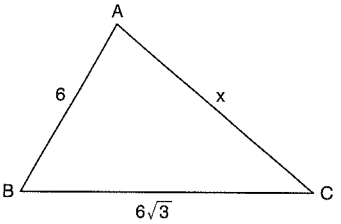
$x \in Z$

$m(\widehat{C}) > 45°$

$\Rightarrow \min(x) = ?$

11

3.



$x \in Z$

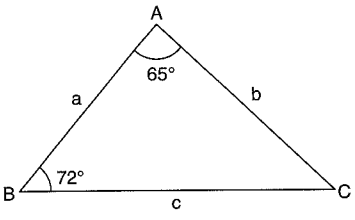
$m(\widehat{B}) > 30°$

$\Rightarrow \min(x) = ?$

7

PUZA YAYINLARI

1.



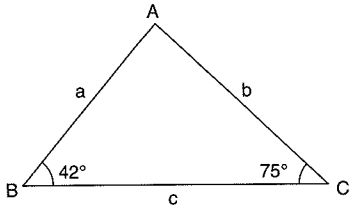
Aşağıdakilerden hangisi doğrudur?

Which one of the following is correct?

A) a > b > c B) b > a > c C) b > c > a

D) c > b > a E) a > c > b

2.



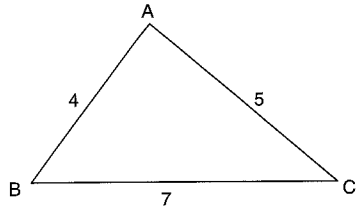
Aşağıdakilerden hangisi doğrudur?

Which one of the following is correct?

A) c > a > b B) a > c > b C) c > b > a

D) a > b > c E) b > a > c

3.



Aşağıdakilerden hangisi doğrudur?

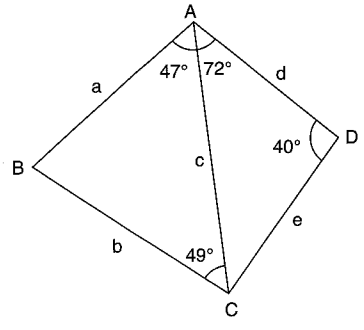
Which one of the following is correct?

A) $m(\widehat{A}) > m(\widehat{C}) > m(\widehat{B})$ B) $m(\widehat{C}) > m(\widehat{A}) > m(\widehat{B})$

C) $m(\widehat{C}) > m(\widehat{B}) > m(\widehat{A})$ D) $m(\widehat{A}) > m(\widehat{B}) > m(\widehat{C})$

E) $m(\widehat{B}) > m(\widehat{A}) > m(\widehat{C})$

4.

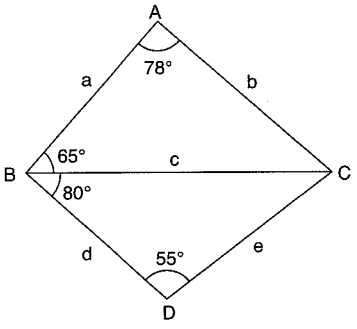


En kısa kenar hangisidir?

Which side is the shortest?

A) a B) b C) c D) d E) e

5.

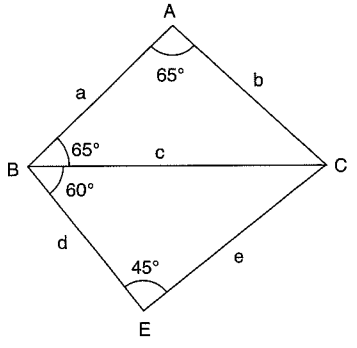


En uzun kenar hangisidir?

Which side is the longest?

A) a B) b C) c D) d E) e

6.

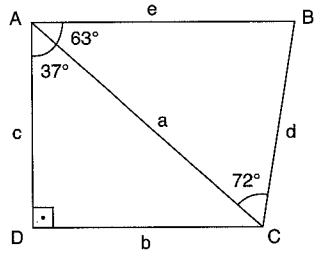


En uzun kenar hangisidir?

Which side is the longest?

A) a B) b C) c D) d E) e

7.

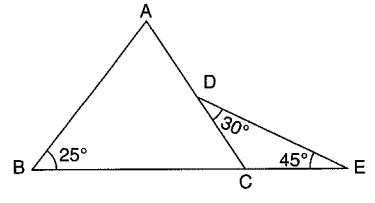


En kısa kenar hangisidir?

Which side is the shortest?

A) a B) b C) c D) d E) e

8.



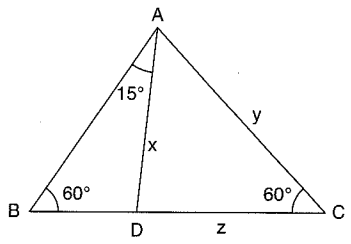
En kısa kenar hangisidir?

Which side is the shortest?

A) [AB] B) [AC] C) [BC] D) [CE] E) [DE]

PUZA YAYINLARI

9.

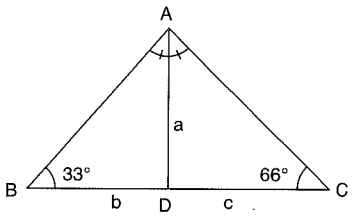


Aşağıdakilerden hangisi doğrudur?

Which one of the following is correct?

A) $x > y > z$ B) $y > x > z$ C) $z > y > x$
D) $y > z > x$ E) $z > x > y$

10.

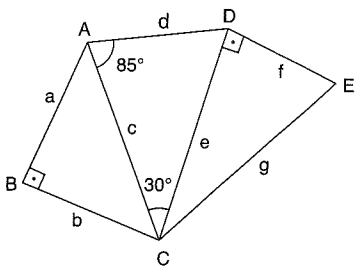


Aşağıdakilerden hangisi doğrudur?

Which one of the following is correct?

A) $a > b > c$ B) $a > c > b$ C) $b > a > c$
D) $b > c > a$ E) $c > a > b$

11.

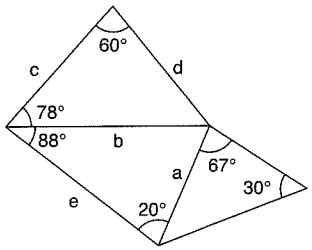


En uzun kenar hangisidir?

Which side is the longest?

A) c B) d C) e D) f E) g

12.

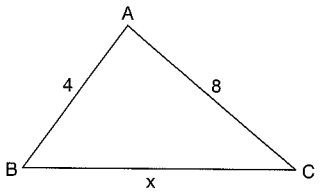


En kısa kenar hangisidir?

Which side is the shortest?

A) a B) b C) c D) d E) e

13.

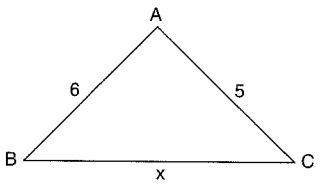


x aşağıdakilerden hangisi olabilir?

Which one of the following can be rate of x?

A) 1 B) 2 C) 4 D) 7 E) 12

14.

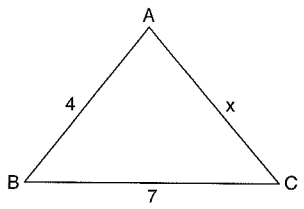


x'in tanım aralığı nedir?

What is the definition range of x?

A) $1 < x < 12$ B) $1 \le x \le 11$ C) $1 < x < 11$
D) $2 \le x \le 10$ E) $2 < x < 10$

15.

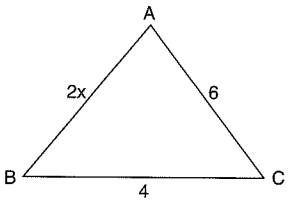


$x \in Z^+$

$\Rightarrow \max(x) + \min(x) = ?$

A) 16 B) 15 C) 14 D) 12 E) 10

16.



$x \in R$

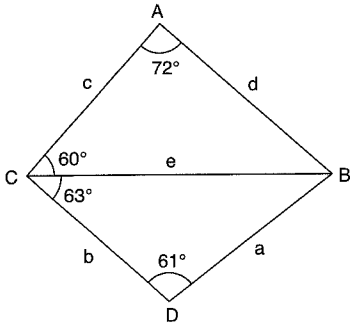
x'in tanım aralığı nedir?

What is the definition range of x?

A) $2 < x < 10$ B) $2 \le x \le 10$ C) $1 < x < 5$
D) $2 < x < 5$ E) $1 < x < 10$

PUZA YAYINLARI

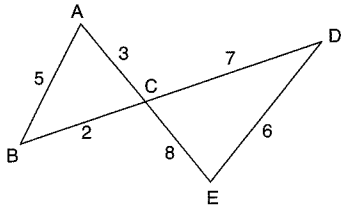
1.



En uzun kenar hangisidir?
Which side is the longest?

A) a B) b C) c D) d E) e

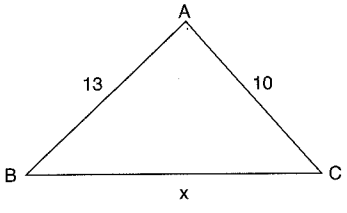
2.



En büyük açı hangisidir?
Which one is the largest angle?

A) $m(\widehat{A})$ B) $m(\widehat{B})$ C) $m(\widehat{C})$ D) $m(\widehat{D})$ E) $m(\widehat{E})$

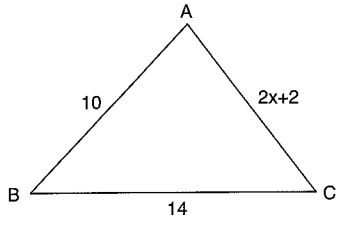
3.



x'in tanım aralığı nedir?
What is the definition range of x?

A) $10 < x < 13$ B) $3 < x < 13$ C) $3 < x < 23$
D) $10 < x < 23$ E) $4 < x < 22$

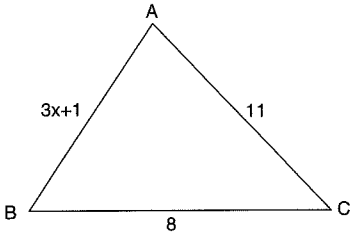
4.



x'in tanım aralığı nedir?
What is the definition range of x?

A) $5 < x < 7$ B) $3 < x < 5$ C) $4 < x < 24$
D) $2 < x < 12$ E) $1 < x < 11$

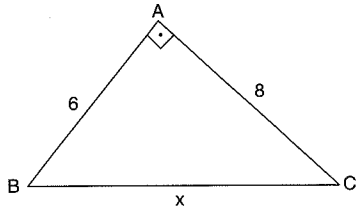
5.



x'in tanım aralığı nedir?
What is the definition range of x?

A) $1 < x < \frac{20}{3}$ B) $\frac{2}{3} < x < 6$ C) $1 < x < 6$
D) $1 < x < \frac{19}{3}$ E) $3 < x < 19$

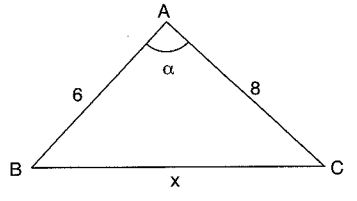
6.



$[AB] \perp [AC]$
$|AB| = 6$ br
$|AC| = 8$ br
$\Rightarrow |BC| = x = ?$

A) 6 B) 8 C) 10 D) 12 E) 14

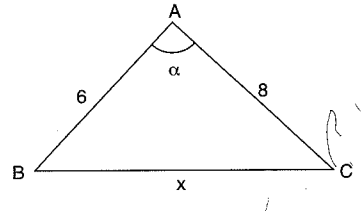
7.



$\alpha > 90°$
x'in tanım aralığı nedir?
What is the definition range of x?

A) $2 < x < 10$ B) $6 < x < 8$ C) $6 < x < 14$
D) $10 < x < 14$ E) $2 < x < 14$

8.

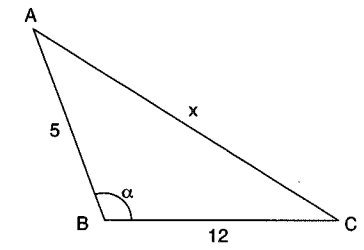


$\alpha < 90°$
x'in tanım aralığı nedir?
What is the definition range of x?

A) $2 < x < 10$ B) $6 < x < 8$ C) $6 < x < 14$
D) $10 < x < 14$ E) $2 < x < 14$

PUZA YAYINLARI

9.



$\alpha > 90°$

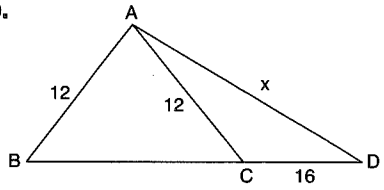
x'in tanım aralığı nedir?

What is the definition range of x?

A) $5 < x < 7$ B) $7 < x < 12$ C) $12 < x < 13$

D) $13 < x < 17$ E) $7 < x < 17$

10.



$x \in Z$

$|AB| = 12$ br

$|AC| = 12$ br

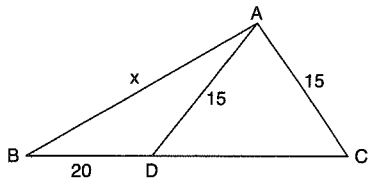
$|CD| = 16$ br

$|AD| = x$

$\Rightarrow \min(x) = ?$

A) 4 B) 12 C) 16 D) 20 E) 21

11.



$x \in Z$

$|AD| = 15$ br

$|AC| = 15$ br

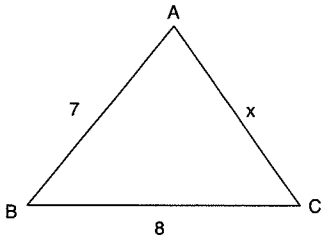
$|BD| = 20$ br

$|AB| = x$

$\Rightarrow \min(x) = ?$

A) 5 B) 15 C) 20 D) 25 E) 26

12.



$m(\widehat{B}) > m(\widehat{C})$

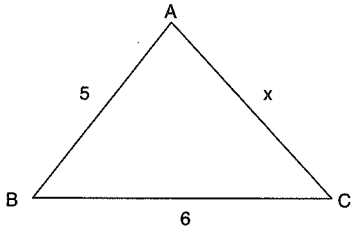
x'in tanım aralığı nedir?

What is the definition range of x?

A) $1 < x < 7$ B) $1 < x < 8$ C) $7 < x < 15$

D) $8 < x < 15$ E) $1 < x < 15$

13.



$m(\widehat{A}) > m(\widehat{B})$

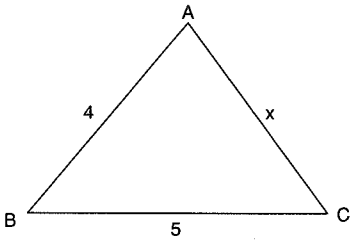
x'in tanım aralığı nedir?

What is the definition range of x?

A) $1 < x < 5$ B) $1 < x < 6$ C) $5 < x < 11$

D) $6 < x < 11$ E) $1 < x < 11$

14.



$m(\widehat{A}) > m(\widehat{B})$

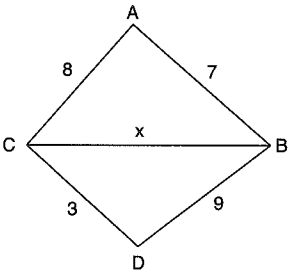
x'in tanım aralığı nedir?

What is the definition range of x?

A) $4 < x < 9$ B) $5 \leq x \leq 9$ C) $4 < x < 5$

D) $1 < x < 5$ E) $1 < x < 9$

15.



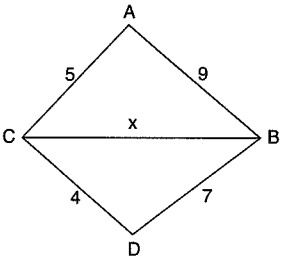
x'in tanım aralığı nedir?

What is the definition range of x?

A) $1 < x < 7$ B) $1 < x < 12$ C) $1 < x < 15$

D) $6 < x < 12$ E) $6 < x < 11$

16.



x'in tanım aralığı nedir?

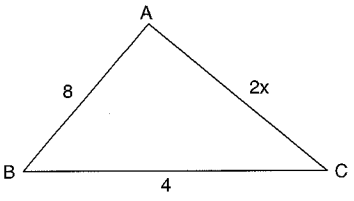
What is the definition range of x?

A) $9 < x < 11$ B) $7 < x < 11$ C) $3 < x < 11$

D) $5 < x < 14$ E) $4 < x < 11$

PUZA YAYINLARI

1.



$m(\widehat{C}) > m(\widehat{B})$

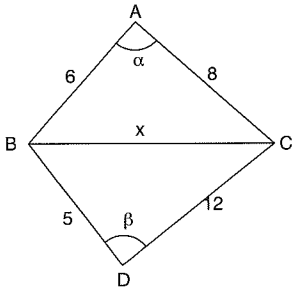
x'in tanım aralığı nedir?

What is the definition range of x?

A) $2 < x < 4$ B) $2 < x < 8$ C) $4 < x < 6$

D) $4 < x < 8$ E) $6 < x < 8$

2.



$\alpha > 90°$

$\beta < 90°$

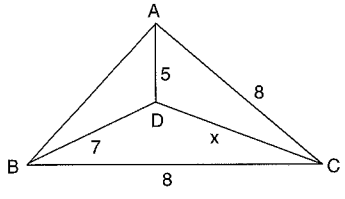
x'in tanım aralığı nedir?

What is the definition range of x?

A) $7 < x < 13$ B) $10 < x < 13$ C) $10 < x < 17$

D) $8 < x < 12$ E) $13 < x < 17$

3.



$x \in Z^+$

$|AD| = 5$ br

$|BD| = 7$ br

$|AC| = 8$ br

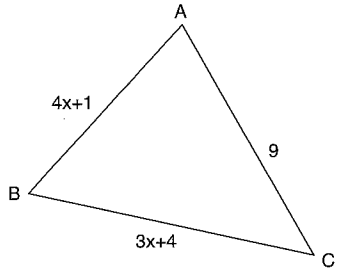
$|BC| = 8$ br

$|DC| = x$

$\Rightarrow \min(x) = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

4.



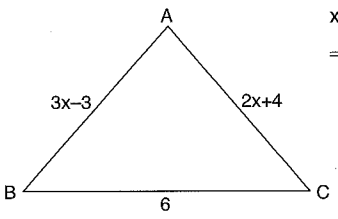
x'in tanım aralığı nedir?

What is the definition range of x?

A) $2 < x < 9$ B) $1 < x < 9$ C) $\frac{4}{7} < x < 9$

D) $\frac{4}{7} < x < 12$ E) $\frac{2}{7} < x < 12$

5.

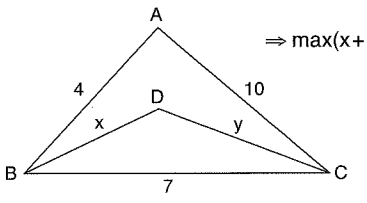


$x \in Z^+$

$\Rightarrow \max(x) + \min(x) = ?$

A) 12 B) 13 C) 14 D) 15 E) 16

6.

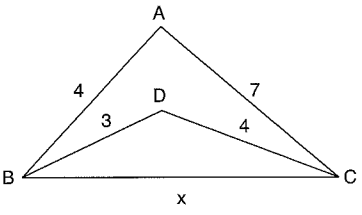


$(x + y) \in Z^+$

$\Rightarrow \max(x+y) - \min(x+y) = ?$

A) 4 B) 5 C) 6 D) 7 E) 8

7.

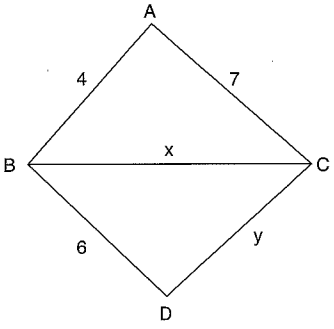


$x \in Z^+$

$\Rightarrow \max(x) = ?$

A) 10 B) 9 C) 8 D) 7 E) 6

8.



$x, y \in N$

$\max(x)$ için

for max(x)

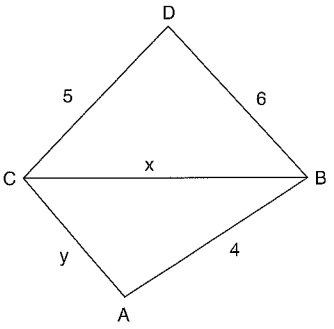
$\Rightarrow \max(y) = ?$

A) 17 B) 16 C) 15 D) 14 E) 13

PUZA YAYINLARI

www.ztcprep.com

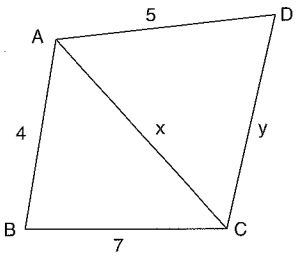
9.



x, y ∈ N
max(x) için
for max(x)
⇒ min(y) = ?

A) 6 B) 7 C) 8 D) 9 E) 10

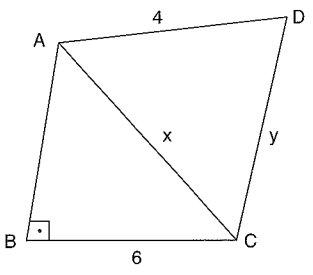
10.



x, y ∈ N
min(x) için
for min(x)
⇒ max(y) = ?

A) 9 B) 8 C) 7 D) 6 E) 5

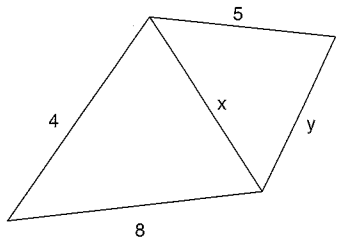
11.



x, y ∈ Z⁺
min(x) için
for min(x)
⇒ max(y) = ?

A) 7 B) 8 C) 9 D) 10 E) 11

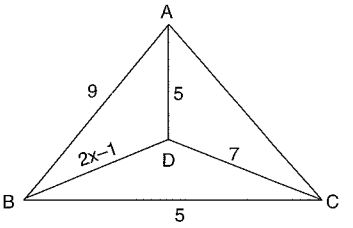
12.



x ∈ R, y ∈ N
max(x) için
for max(x)
⇒ max(y) = ?

A) 16 B) 15 C) 14 D) 12 E) 11

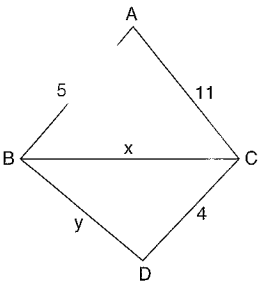
13.



x ∈ Z⁺
⇒ max(x) = ?

A) 4 B) 5 C) 6 D) 7 E) 8

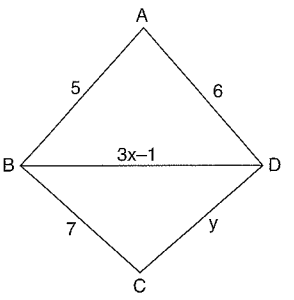
14.



x ∈ R, y ∈ N
min(x) için
for min(x)
⇒ max(y) = ?

A) 7 B) 8 C) 9 D) 10 E) 11

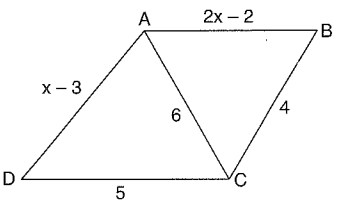
15.



x, y ∈ Z
max(x) için
for max(x)
⇒ max(y) = ?

A) 16 B) 15 C) 14 D) 13 E) 12

16.



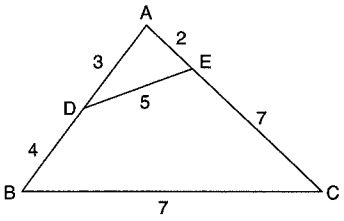
x'in tanım aralığı nedir?
What is the definition range of x?

A) 2 < x < 6 B) 4 < x < 6 C) 4 < x < 10
D) 4 < x < 9 E) 2 < x < 10

PUZA YAYINLARI

www.ztcprep.com

1.

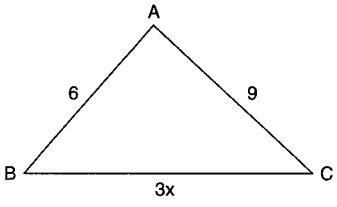


En büyük açı hangisidir?

Which one is the largest angle?

A) $m(\widehat{A})$ B) $m(\widehat{B})$ C) $m(\widehat{C})$ D) $m(\widehat{D})$ E) $m(\widehat{E})$

2.

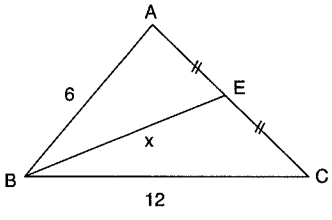


x'in tanım aralığı nedir?

What is the definition range of x?

A) $1 < x < 3$ B) $2 < x < 3$ C) $1 < x < 5$
D) $2 < x < 5$ E) $3 < x < 5$

3.



$x \in Z^+$

$|AE| = |EC|$

$|AB| = 6$ br

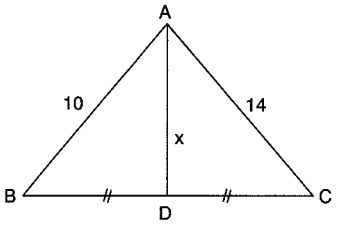
$|BC| = 12$ br

$|BE| = x$

$\Rightarrow \min(x) = ?$

A) 3 B) 4 C) 5 D) 6 E) 7

4.

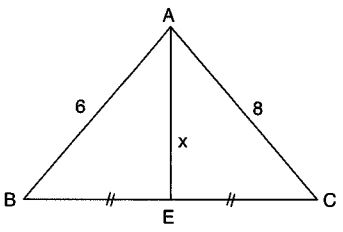


$x \in Z^+$

$\Rightarrow \max(x) = ?$

A) 6 B) 11 C) 12 D) 13 E) 23

5.



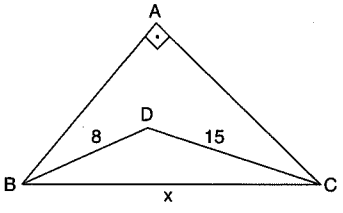
$m(\widehat{A}) > 90°$

x'in tanım aralığı nedir?

What is the definition range of x?

A) $1 < x < 5$ B) $1 < x < 7$ C) $2 < x < 10$
D) $5 < x < 7$ E) $10 < x < 14$

6.



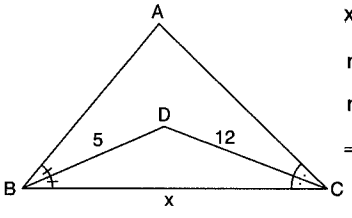
$x \in Z^+$

$[BA] \perp [AC]$

$\Rightarrow \min(x) = ?$

A) 8 B) 9 C) 17 D) 18 E) 19

7.



$x \in Z$

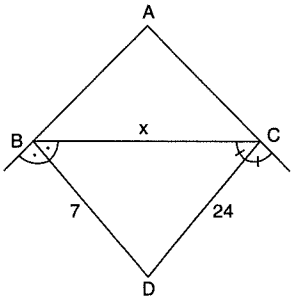
$m(\widehat{ABD}) = m(\widehat{DBC})$

$m(\widehat{ACD}) = m(\widehat{DCB})$

$\Rightarrow \min(x) + \max(x) = ?$

A) 30 B) 29 C) 27 D) 26 E) 25

8.



$x \in Z$

[BD], [DC] açıortay

[BD], [DC] bisector

$|BD| = 7$ br

$|DC| = 24$ br

$|BC| = x$

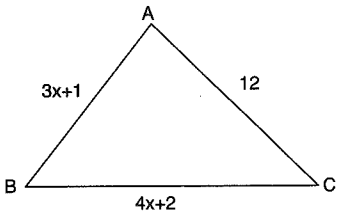
$\Rightarrow \max(x) = ?$

A) 22 B) 23 C) 24 D) 25 E) 26

PUZA YAYINLARI

www.ztcprep.com

9.



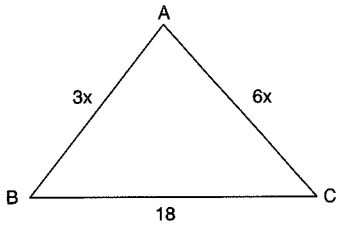
$x \in Z^+$

Üçgenin çevresinin maksimum değeri kaç birimdir?

What is the maximum rate of perimeter of triangle?

A) 83 B) 84 C) 85 D) 86 E) 87

10.



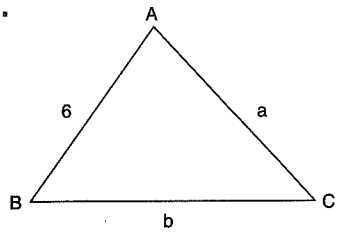
$x \in Z^+$

Üçgenin çevresinin maksimum değeri kaç birimdir?

What is the maximum rate of perimeter of triangle?

A) 67 B) 66 C) 65 D) 64 E) 63

11.



$a, b \in Z^+$

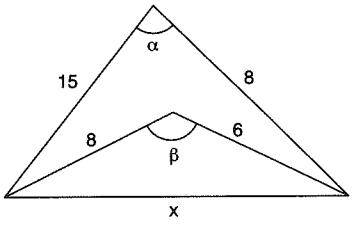
$m(\widehat{A}) < m(\widehat{C}) < m(\widehat{B})$

Üçgenin çevresinin maksimum değeri kaç birimdir?

What is the maximum rate of perimeter of triangle?

A) 19 B) 20 C) 21 D) 22 E) 23

12.



$\alpha < 90° < \beta$

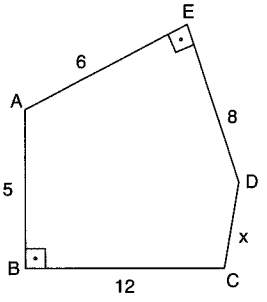
x'in tanım aralığı nedir?

What is the definition range of x?

A) $8 < x < 15$ B) $10 < x < 15$ C) $10 < x < 17$

D) $10 < x < 14$ E) $17 < x < 23$

13.



$x \in Z^+$

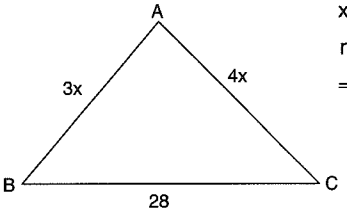
$[AB] \perp [BC]$

$[AE] \perp [ED]$

$\Rightarrow \min(x) = ?$

A) 5 B) 4 C) 3 D) 2 E) 1

14.



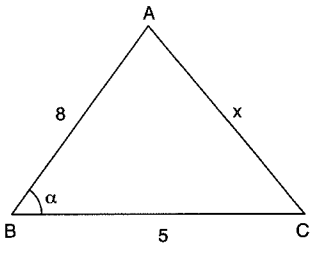
$x \in Z^+$

$m(\widehat{A}) > m(\widehat{B})$

$\Rightarrow \max(x) - \min(x) = ?$

A) 1 B) 2 C) 3 D) 4 E) 7

15.



$\alpha > 60°$

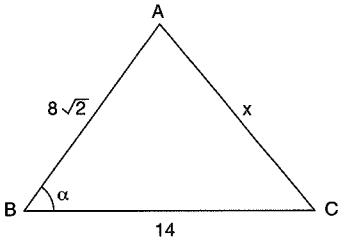
x'in tanım aralığı nedir?

What is the definition range of x?

A) $3 < x < 7$ B) $6 < x < 13$ C) $3 < x < 13$

D) $7 < x < 13$ E) $7 < x < 12$

16.



$x \in Z^+$

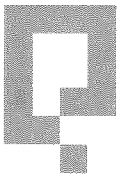
$\alpha < 45°$

$\Rightarrow \max(x) = ?$

A) 7 B) 8 C) 9 D) 10 E) 11

PUZA YAYINLARI

ZTC زنگنه مجموعه موسسات



AÇI-KENAR BAĞINTILARI
Yanıt Anahtarı

ANGLE-SIDE RELATIONSHIPS
Answer Key

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	B	D	B	E	D	B	D	B	C	E	C	D	C	C	C

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	D	C	E	B	C	D	A	D	E	E	C	B	D	D	E

TEST 3

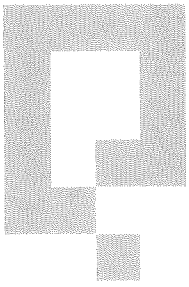
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	B	D	D	C	B	E	C	B	B	D	A	C	D	C	B

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	C	B	B	A	D	A	C	C	E	C	D	B	A	D	C

www.ztcprep.com

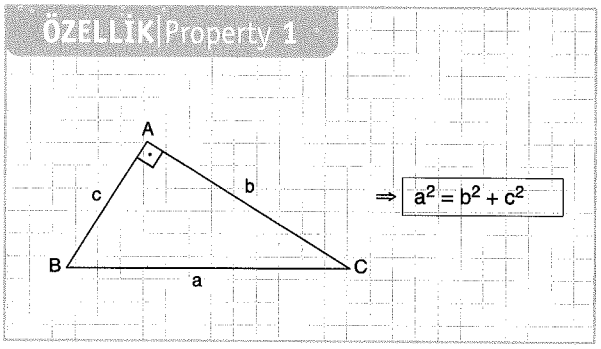
ZTC زنگنه
مجموعه موسسات



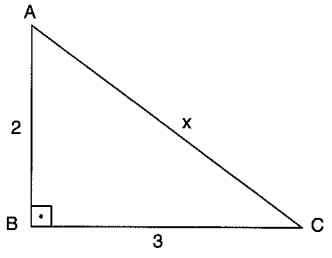
DİK ÜÇGEN
RIGHT TRIANGLES

www.ztcprep.com

ÖZELLİK / Property 1



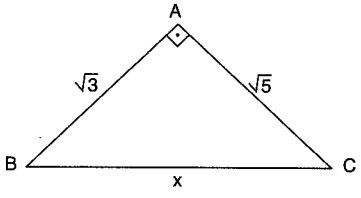
1.



⇒ x = ?

√13

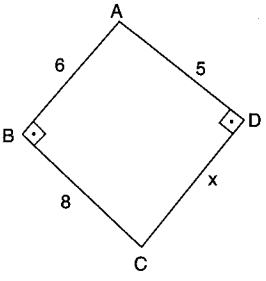
2.



⇒ x = ?

2√2

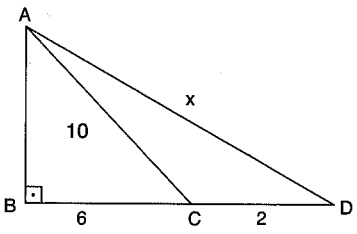
3.



⇒ x = ?

5√3

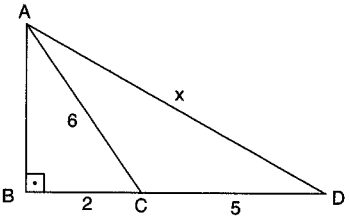
4.



⇒ x = ?

8√2

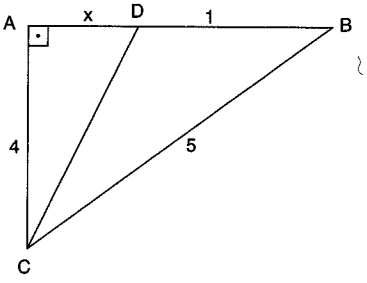
5.



⇒ x = ?

9

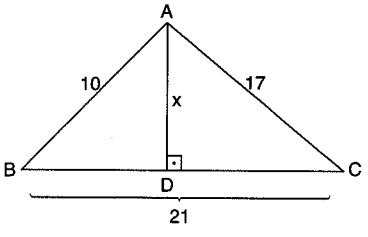
6.



⇒ x = ?

2

7.

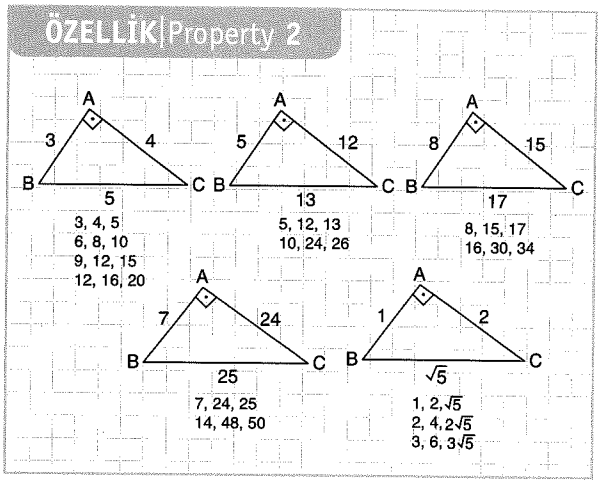


⇒ x = ?

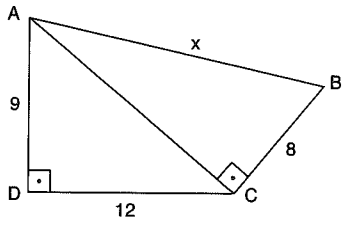
8

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

ÖZELLİK | Property 2



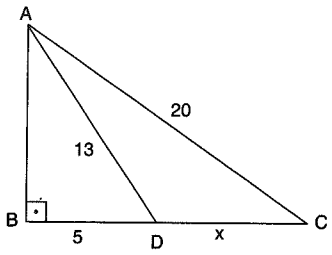
1.



⇒ x = ?

17

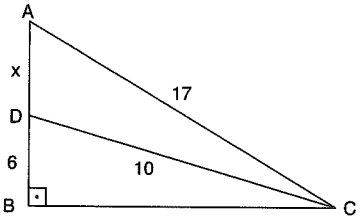
2.



⇒ x = ?

11

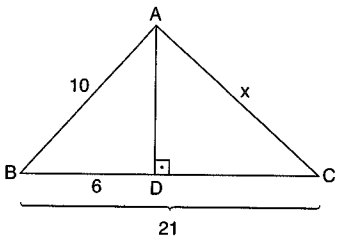
3.



⇒ x = ?

9

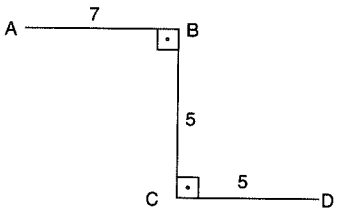
4.



⇒ x = ?

17

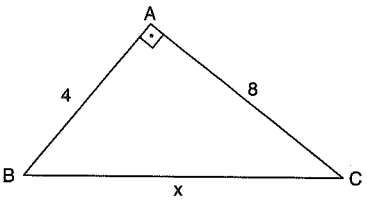
5.



⇒ |AD| = ?

13

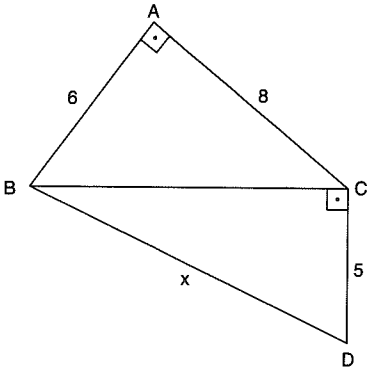
6.



⇒ x = ?

$4\sqrt{5}$

7.

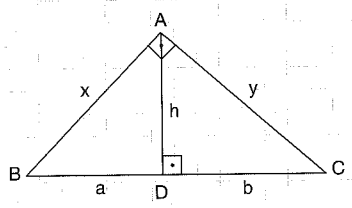


⇒ x = ?

$5\sqrt{5}$

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

ÖZELLİK | Property 3



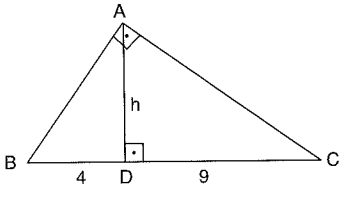
$\Rightarrow h^2 = a \cdot b$

$\Rightarrow x^2 = a(a + b)$

$\Rightarrow y^2 = b(a + b)$

$\Rightarrow x \cdot y = (a + b)h$

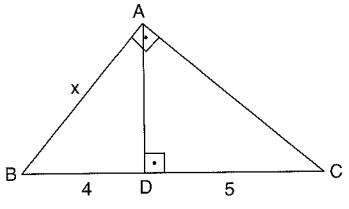
1.



$\Rightarrow h = ?$

6

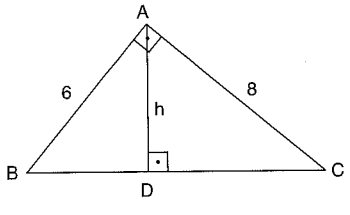
2.



$\Rightarrow x = ?$

6

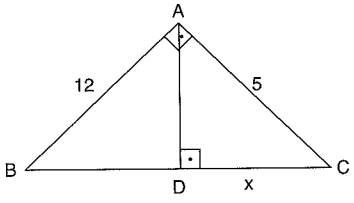
3.



$\Rightarrow h = ?$

4,8

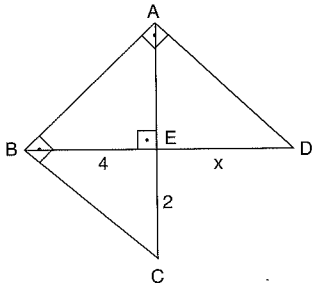
4.



$\Rightarrow x = ?$

$\frac{25}{13}$

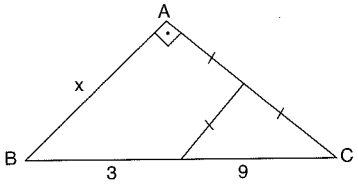
5.



$\Rightarrow x = ?$

16

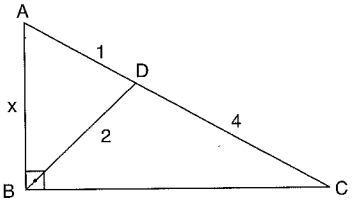
6.



$\Rightarrow x = ?$

6

7.

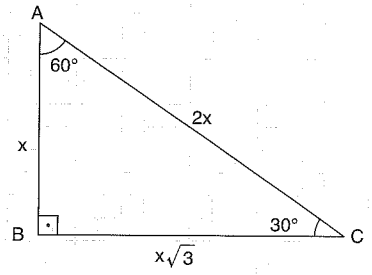


$\Rightarrow x = ?$

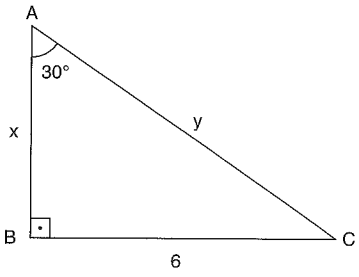
$\sqrt{5}$

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

ÖZELLİK | Property 4



1.

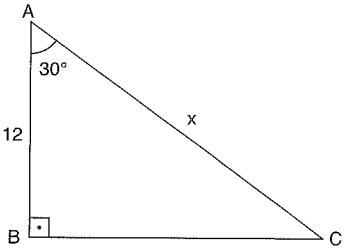


⇒ x = ?

⇒ y = ?

$6\sqrt{3}$, 12

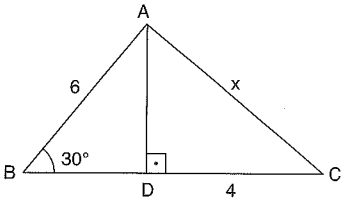
2.



⇒ x = ?

$8\sqrt{3}$

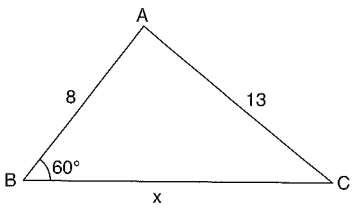
3.



⇒ x = ?

5

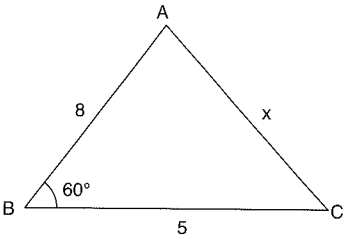
4.



⇒ x = ?

15

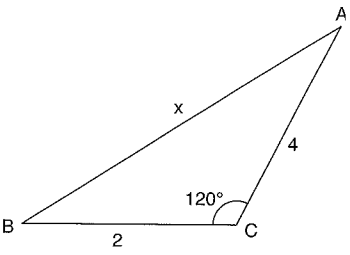
5.



⇒ x = ?

7

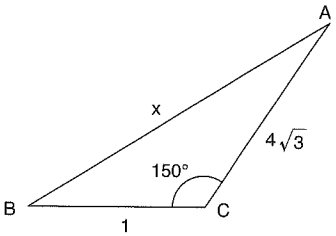
6.



⇒ x = ?

$2\sqrt{7}$

7.

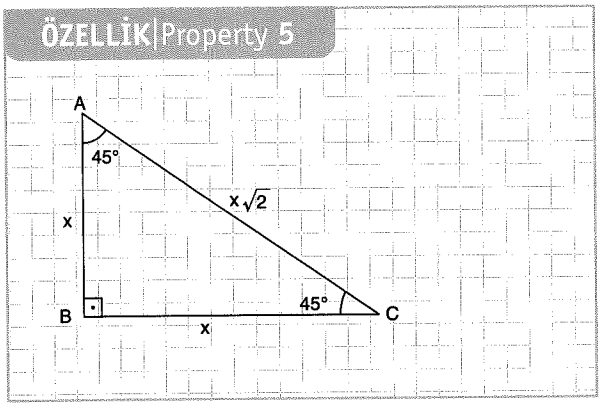


⇒ x = ?

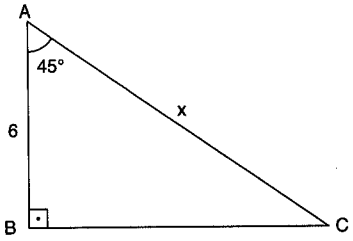
$\sqrt{61}$

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

ÖZELLİK | Property 5



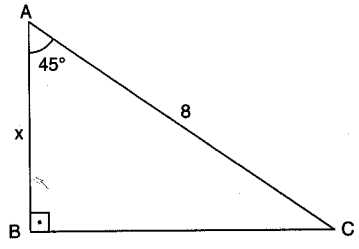
1.



⇒ x = ?

6√2

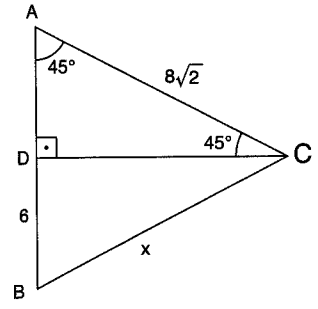
2.



⇒ x = ?

4√2

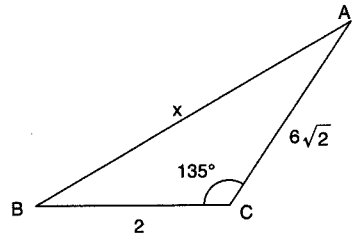
3.



⇒ x = ?

10

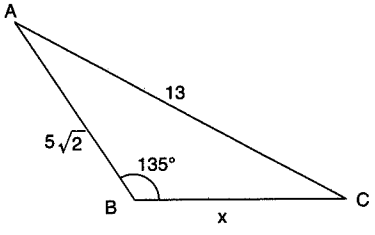
4.



⇒ x = ?

10

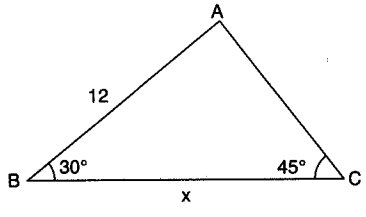
5.



⇒ x = ?

7

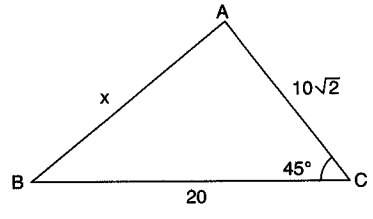
6.



⇒ x = ?

6√3 + 6

7.

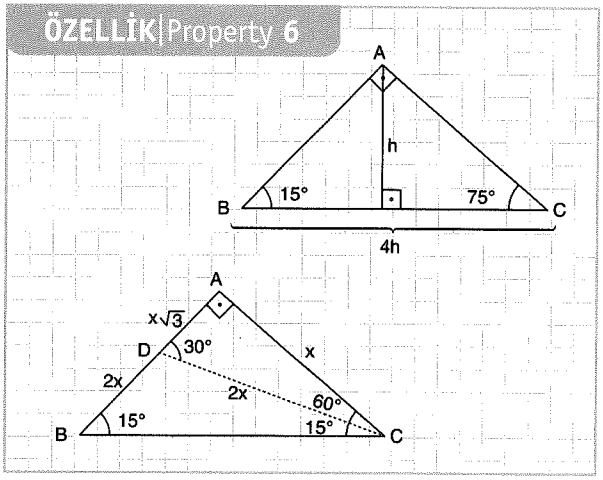


⇒ x = ?

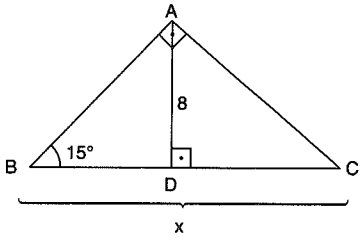
10√2

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

ÖZELLİK|Property 6



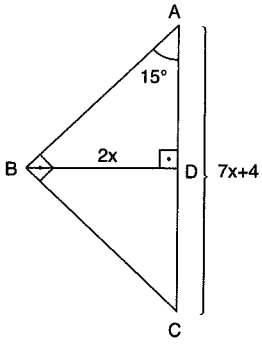
1.



⇒ x = ?

32

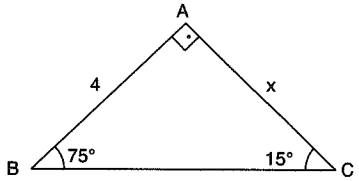
2.



⇒ x = ?

4

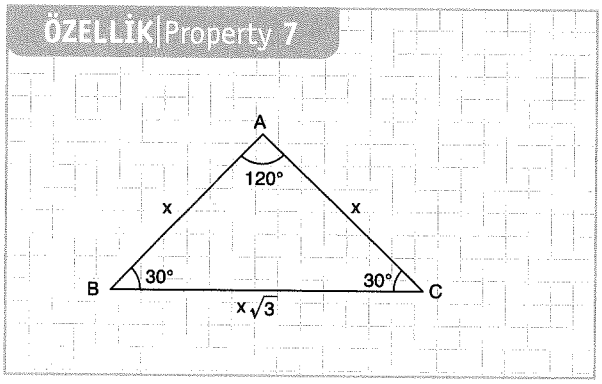
3.



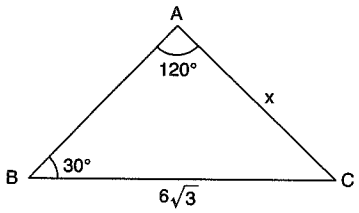
⇒ x = ?

8 + 4√3

ÖZELLİK|Property 7



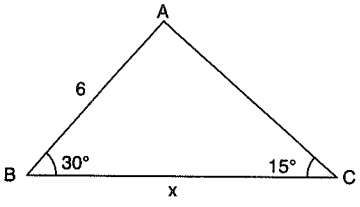
1.



⇒ x = ?

6

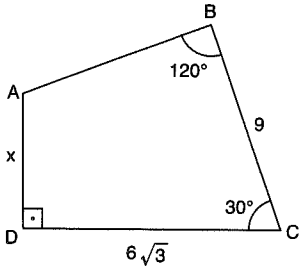
2.



⇒ x = ?

6 + 6√3

3.

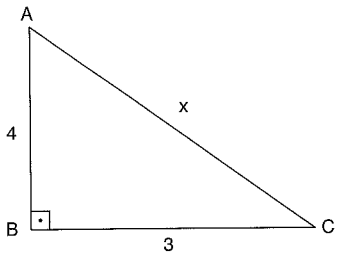


⇒ x = ?

3

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

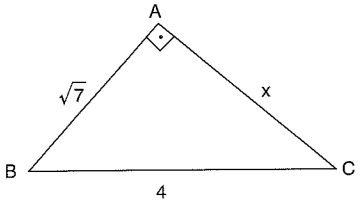
1.



$[AB] \perp [BC]$
$|AB| = 4$ br
$|BC| = 3$ br
$\Rightarrow |AC| = x = ?$

A) 25 B) 7 C) 5 D) $2\sqrt{7}$ E) $2\sqrt{2}$

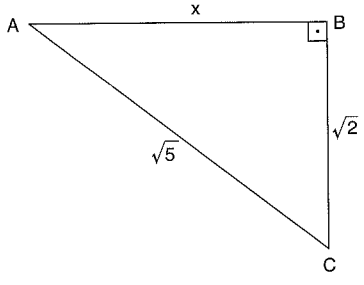
2.



$[BA] \perp [AC]$
$|AB| = \sqrt{7}$ br
$|BC| = 4$ br
$\Rightarrow |AC| = x = ?$

A) $\sqrt{5}$ B) 3 C) 4 D) 5 E) $\sqrt{23}$

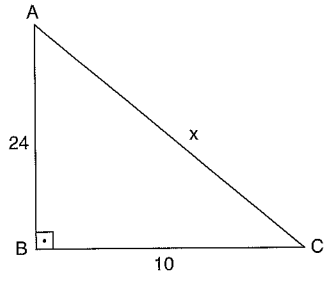
3.



$[AB] \perp [BC]$
$|AC| = \sqrt{5}$ br
$|BC| = \sqrt{2}$ br
$\Rightarrow |AB| = x = ?$

A) 1 B) $\sqrt{2}$ C) $\sqrt{3}$ D) 2 E) $\sqrt{5}$

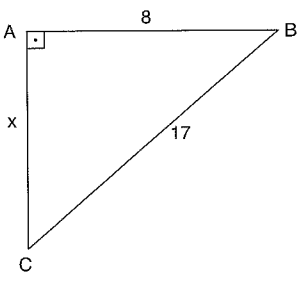
4.



$[AB] \perp [BC]$
$|AB| = 24$ br
$|BC| = 10$ br
$\Rightarrow |AC| = x = ?$

A) 10 B) 20 C) 24 D) 25 E) 26

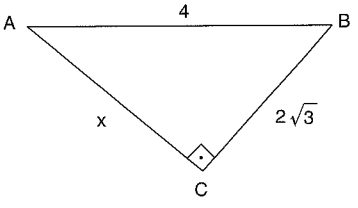
5.



$[BA] \perp [AC]$
$|AB| = 8$ br
$|BC| = 17$ br
$\Rightarrow |AC| = x = ?$

A) 15 B) 13 C) 10 D) 8 E) 6

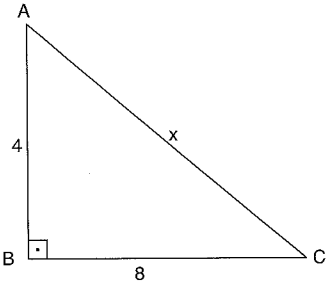
6.



$[AC] \perp [BC]$
$|AB| = 4$ br
$|BC| = 2\sqrt{3}$ br
$\Rightarrow |AC| = x = ?$

A) 1 B) 2 C) $\sqrt{3}$ D) $2\sqrt{3}$ E) $2\sqrt{7}$

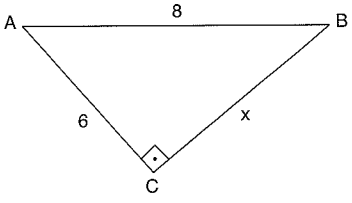
7.



$[AB] \perp [BC]$
$|AB| = 4$ br
$|BC| = 8$ br
$\Rightarrow |AC| = x = ?$

A) 4 B) $4\sqrt{2}$ C) $4\sqrt{3}$ D) $4\sqrt{5}$ E) 8

8.

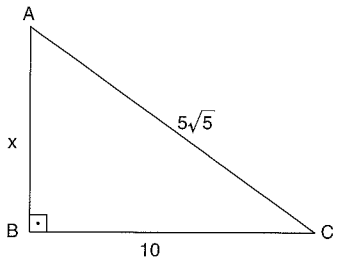


$[AC] \perp [BC]$
$|AB| = 8$ br
$|AC| = 6$ br
$\Rightarrow |BC| = x = ?$

A) 10 B) $2\sqrt{7}$ C) $\sqrt{7}$ D) 2 E) 1

PUZA YAYINLARI

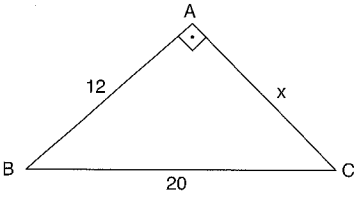
9.



$[AB] \perp [BC]$
$|BC| = 10$ br
$|AC| = 5\sqrt{5}$ br
$\Rightarrow |AB| = x = ?$

A) 5 B) $5\sqrt{2}$ C) 10 D) $10\sqrt{2}$ E) $10\sqrt{5}$

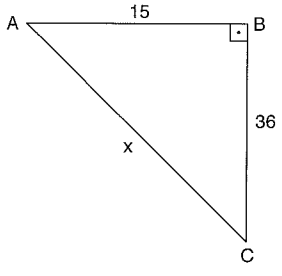
10.



$[BA] \perp [AC]$
$|AB| = 12$ br
$|BC| = 20$ br
$\Rightarrow |AC| = x = ?$

A) 12 B) 15 C) 16 D) 18 E) 20

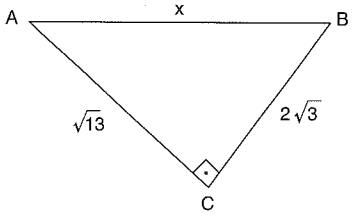
11.



$[AB] \perp [BC]$
$|AB| = 15$ br
$|BC| = 36$ br
$\Rightarrow |AC| = x = ?$

A) 35 B) 36 C) 37 D) 38 E) 39

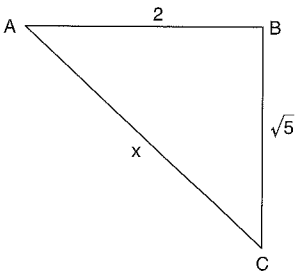
12.



$[AC] \perp [BC]$
$|AC| = \sqrt{13}$ br
$|BC| = 2\sqrt{3}$ br
$\Rightarrow |AB| = x = ?$

A) 4 B) 5 C) 6 D) 7 E) 8

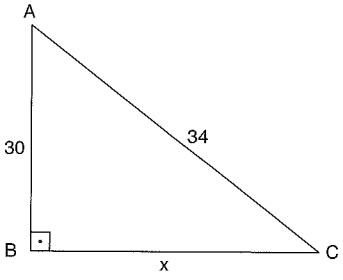
13.



$m(\widehat{BAC}) + m(\widehat{BCA}) = 90°$
$|AB| = 2$ br
$|BC| = \sqrt{5}$ br
$\Rightarrow |AC| = x = ?$

A) 2 B) 3 C) 5 D) $\sqrt{7}$ E) $\sqrt{29}$

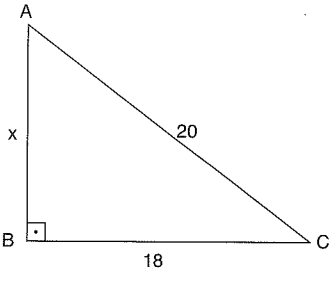
14.



$[AB] \perp [BC]$
$|AB| = 30$ br
$|AC| = 34$ br
$\Rightarrow |BC| = x = ?$

A) 2 B) 4 C) 8 D) 10 E) 16

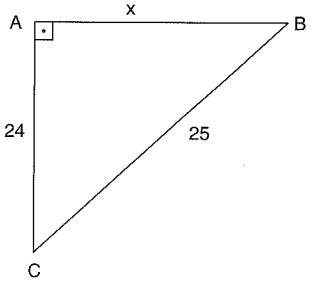
15.



$[AB] \perp [BC]$
$|AC| = 20$ br
$|BC| = 18$ br
$\Rightarrow |AB| = x = ?$

A) 2 B) $\sqrt{19}$ C) $2\sqrt{19}$ D) 18 E) 20

16.

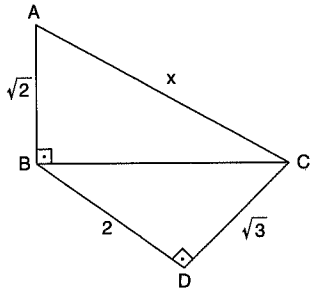


$[BA] \perp [AC]$
$|AC| = 24$ br
$|BC| = 25$ br
$\Rightarrow |AB| = x = ?$

A) 1 B) 2 C) 6 D) 7 E) $\sqrt{7}$

PUZA YAYINLARI

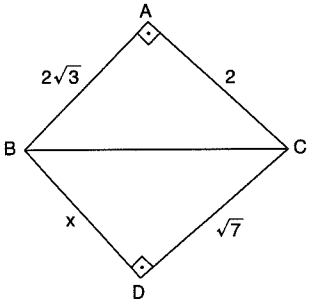
1.



[AB] ⊥ [BC]
[BD] ⊥ [DC]
|AB| = $\sqrt{2}$ br
|BD| = 2 br
|DC| = $\sqrt{3}$ br
⇒ |AC| = x = ?

A) 1 B) $\sqrt{2}$ C) 2 D) $\sqrt{3}$ E) 3

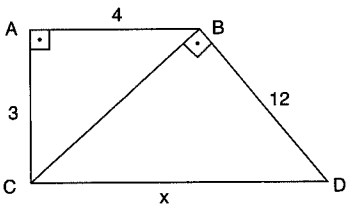
2.



[BA] ⊥ [AC]
[BD] ⊥ [DC]
|AC| = 2 br
|AB| = $2\sqrt{3}$ br
|DC| = $\sqrt{7}$ br
⇒ |BD| = x = ?

A) $\sqrt{3}$ B) $\sqrt{5}$ C) 3 D) 4 E) $\sqrt{10}$

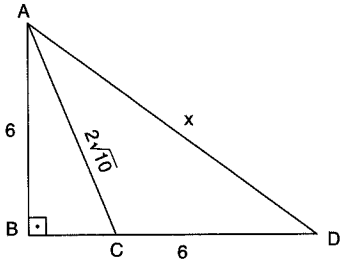
3.



[BA] ⊥ [AC]
[CB] ⊥ [BD]
|AB| = 4 br
|AC| = 3 br
|BD| = 12 br
⇒ |CD| = x = ?

A) 15 B) 13 C) 12 D) 5 E) 1

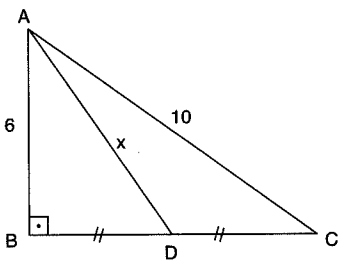
4.



[AB] ⊥ [BC]
|AB| = 6 br
|CD| = 6 br
|AC| = $2\sqrt{10}$ br
⇒ |AD| = x = ?

A) 10 B) $6\sqrt{3}$ C) $6\sqrt{2}$ D) 8 E) 6

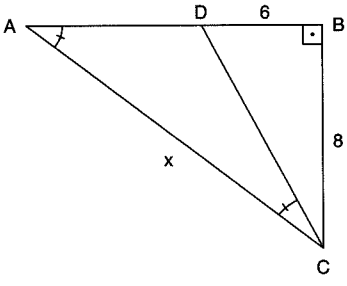
5.



[AB] ⊥ [BC]
|BD| = |DC|
|AC| = 10 br
|AB| = 6 br
⇒ |AD| = x = ?

A) 4 B) 5 C) $2\sqrt{10}$ D) $2\sqrt{13}$ E) 8

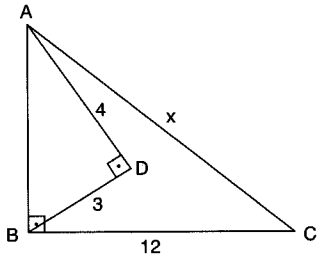
6.



$m(\widehat{BAC}) = m(\widehat{DCA})$
[AB] ⊥ [BC]
|BC| = 8 br
|DB| = 6 br
⇒ |AC| = x = ?

A) 10 B) 12 C) 16 D) $8\sqrt{5}$ E) $16\sqrt{5}$

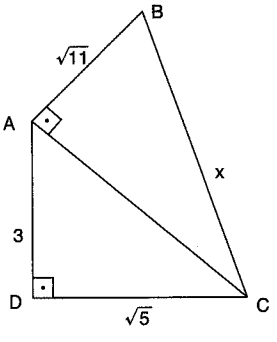
7.



[AB] ⊥ [BC]
[AD] ⊥ [DB]
|AD| = 4 br
|BD| = 3 br
|BC| = 12 br
⇒ |AC| = x = ?

A) 5 B) $5\sqrt{2}$ C) $12\sqrt{2}$ D) 13 E) $13\sqrt{2}$

8.

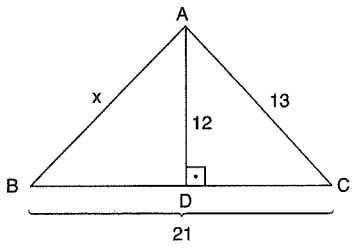


[BA] ⊥ [AC]
[AD] ⊥ [DC]
|AD| = 3 br
|DC| = $\sqrt{5}$ br
|AB| = $\sqrt{11}$ br
⇒ |BC| = x = ?

A) 4 B) 5 C) $2\sqrt{7}$ D) $\sqrt{30}$ E) $4\sqrt{2}$

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

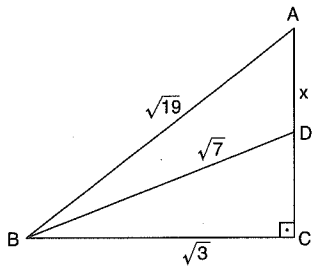
9.



$[AD] \perp [BC]$
$|AC| = 13$ br
$|AD| = 12$ br
$|BC| = 21$ br
$\Rightarrow |AB| = x = ?$

A) 15 B) 16 C) 18 D) 20 E) 25

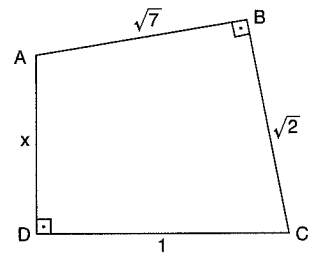
10.



$[AC] \perp [BC]$
$|AB| = \sqrt{19}$ br
$|BD| = \sqrt{7}$ br
$|BC| = \sqrt{3}$ br
$\Rightarrow |AD| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

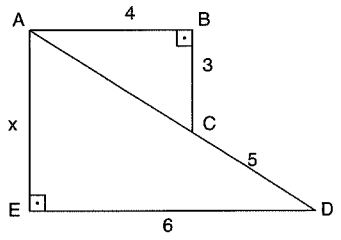
11.



$[AB] \perp [BC]$
$[AD] \perp [DC]$
$|AB| = \sqrt{7}$ br
$|BC| = \sqrt{2}$ br
$|DC| = 1$ br
$\Rightarrow |AD| = x = ?$

A) 2 B) $\sqrt{3}$ C) $2\sqrt{2}$ D) $\sqrt{10}$ E) $2\sqrt{3}$

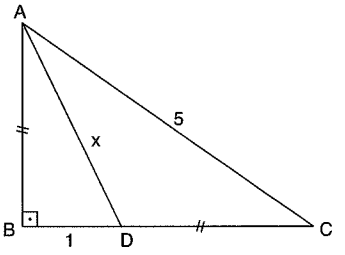
12.



$[AB] \perp [BC]$
$[AE] \perp [ED]$
$|AB| = 4$ br
$|BC| = 3$ br
$|CD| = 5$ br
$|ED| = 6$ br
$\Rightarrow |AE| = x = ?$

A) 8 B) 9 C) 10 D) 12 E) 15

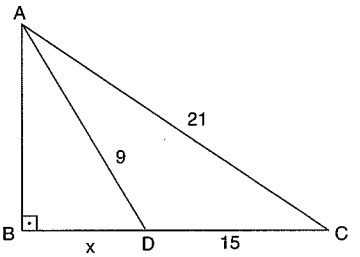
13.



$[AB] \perp [BC]$
$|AB| = |DC|$
$|BD| = 1$ br
$|AC| = 5$ br
$\Rightarrow |AD| = x = ?$

A) 3 B) $\sqrt{10}$ C) $\sqrt{11}$ D) $2\sqrt{3}$ E) $\sqrt{14}$

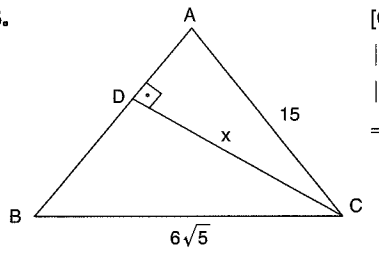
14.



$[AB] \perp [BC]$
$|AD| = 9$ br
$|DC| = 15$ br
$|AC| = 21$ br
$\Rightarrow |BD| = x = ?$

A) 4 B) $\frac{9}{2}$ C) 5 D) $\frac{11}{2}$ E) 6

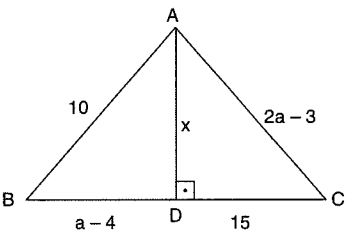
15.



$[CD] \perp [AB]$
$|AB| = |AC| = 15$ br
$|BC| = 6\sqrt{5}$ br
$\Rightarrow |DC| = x = ?$

A) 6 B) 8 C) 9 D) 10 E) 12

16.

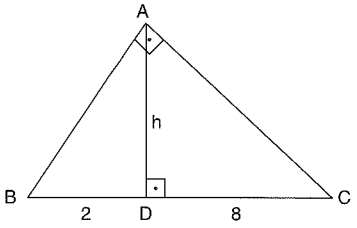


$[AD] \perp [BC]$
$|AB| = 10$ br
$|DC| = 15$ br
$|AC| = 2a - 3$
$|BD| = a - 4$
$\Rightarrow |AD| = x = ?$

A) 6 B) $\frac{15}{2}$ C) 8 D) $\frac{17}{2}$ E) 9

PUZA YAYINLARI

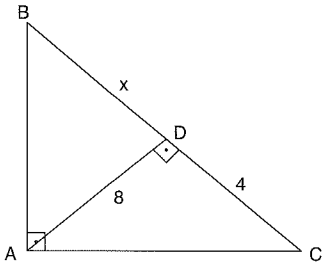
1.



$[BA] \perp [AC]$
$[AD] \perp [BC]$
$|BD| = 2$ br
$|DC| = 8$ br
$\Rightarrow |AD| = h = ?$

A) 2 B) 4 C) 5 D) 6 E) 8

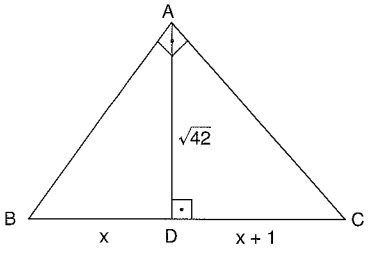
2.



$[BA] \perp [AC]$
$[AD] \perp [BC]$
$|AD| = 8$ br
$|DC| = 4$ br
$\Rightarrow |BD| = x = ?$

A) 4 B) 8 C) 12 D) 16 E) 32

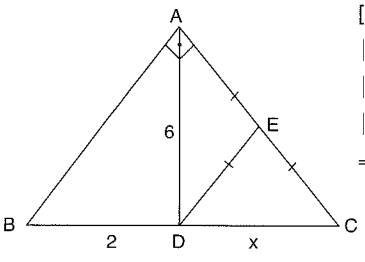
3.



$[BA] \perp [AC]$
$[AD] \perp [BC]$
$|AD| = \sqrt{42}$ br
$|BD| = x$
$|DC| = x + 1$
$\Rightarrow |BC| = ?$

A) 16 B) 14 C) 13 D) 12 E) 7

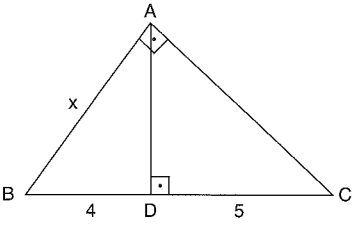
4.



$[BA] \perp [AC]$
$|AE| = |EC| = |DE|$
$|AD| = 6$ br
$|BD| = 2$ br
$\Rightarrow |DC| = x = ?$

A) 9 B) 16 C) 18 D) 38 E) 48

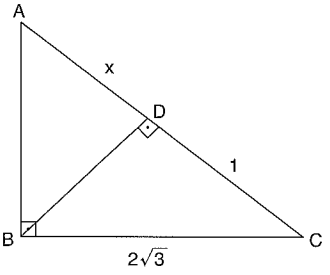
5.



$[BA] \perp [AC]$
$[AD] \perp [BC]$
$|BD| = 4$ br
$|DC| = 5$ br
$\Rightarrow |AB| = x = ?$

A) 4 B) 5 C) 6 D) 9 E) 12

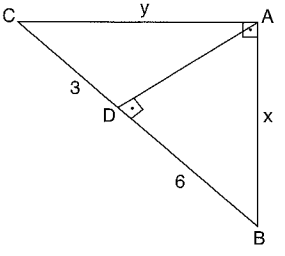
6.



$[AB] \perp [BC]$
$[BD] \perp [AC]$
$|DC| = 1$ br
$|BC| = 2\sqrt{3}$ br
$\Rightarrow |AD| = x = ?$

A) 7 B) 8 C) 9 D) 10 E) 11

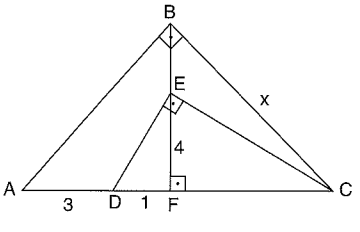
7.



$[CA] \perp [AB]$
$[AD] \perp [BC]$
$|DC| = 3$ br
$|BD| = 6$ br
$|AD| = y$
$|AB| = x$
$\Rightarrow \frac{x}{y} = ?$

A) 1 B) $\sqrt{2}$ C) $\sqrt{3}$ D) 2 E) 4

8.

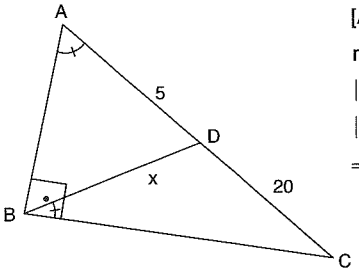


$[AB] \perp [BC]$
$[DE] \perp [EC]$
$[BF] \perp [AC]$
$|EF| = 4$ br
$|DF| = 1$ br
$|AD| = 3$ br
$\Rightarrow |BC| = x = ?$

A) 1 B) $\sqrt{2}$ C) $\sqrt{3}$ D) $2\sqrt{3}$ E) $8\sqrt{5}$

PUZA YAYINLARI

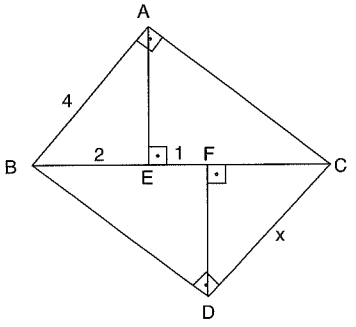
9.



$[AB] \perp [BC]$
$m(\widehat{BAC}) = m(\widehat{DBC})$
$|AD| = 5$ br
$|DC| = 20$ br
$\Rightarrow |BD| = x = ?$

A) 5 B) 10 C) 15 D) 20 E) 25

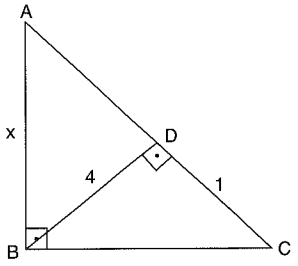
10.



$[BA] \perp [AC]$
$[AE] \perp [BC]$
$[BD] \perp [DC]$
$[DF] \perp [BC]$
$|AB| = 4$ br
$|BE| = 2$ br
$|EF| = 1$ br
$\Rightarrow |DC| = x = ?$

A) 3 B) 4 C) 5
D) $2\sqrt{5}$ E) $2\sqrt{10}$

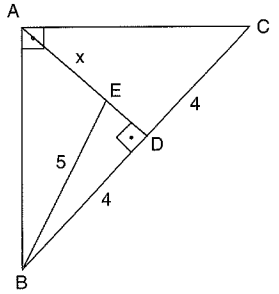
11.



$[AB] \perp [BC]$
$[BD] \perp [AC]$
$|BD| = 4$ br
$|DC| = 1$ br
$\Rightarrow |AB| = x = ?$

A) $\sqrt{17}$ B) 16 C) $2\sqrt{7}$
D) 17 E) $4\sqrt{17}$

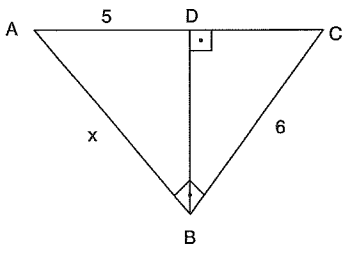
12.



$[CA] \perp [AB]$
$[AD] \perp [BC]$
$|BE| = 5$ br
$|BD| = |DC| = 4$ br
$\Rightarrow |AE| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

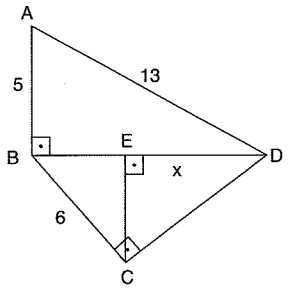
13.



$[AC] \perp [BD]$
$[AB] \perp [BC]$
$|AD| = 5$ br
$|BC| = 6$ br
$\Rightarrow |AB| = x = ?$

A) $\sqrt{3}$ B) $3\sqrt{5}$ C) $5\sqrt{3}$ D) $5\sqrt{5}$ E) 15

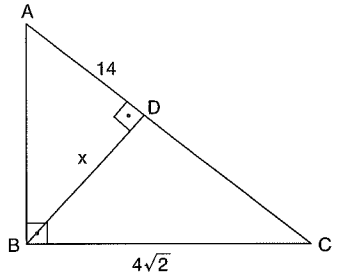
14.



$[AB] \perp [BD]$
$[BC] \perp [CD]$
$[CE] \perp [BD]$
$|AD| = 13$ br
$|AB| = 5$ br
$|BC| = 6$ br
$\Rightarrow |ED| = x = ?$

A) 9 B) 6 C) 5 D) 4 E) 2

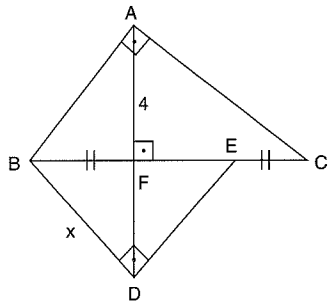
15.



$[AB] \perp [BC]$
$[BD] \perp [AC]$
$|AD| = 14$ br
$|BC| = 4\sqrt{2}$ br
$\Rightarrow |BD| = x = ?$

A) $\sqrt{5}$ B) $\sqrt{7}$ C) $2\sqrt{2}$ D) $2\sqrt{7}$ E) 6

16.

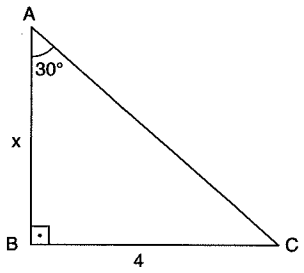


$|BF| = |EC|$
$[BA] \perp [AC]$
$[BD] \perp [DE]$
$[AF] \perp [BC]$
$|AF| = 4$ br
$\Rightarrow |BD| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

PUZA YAYINLARI

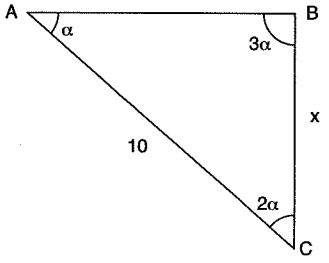
1.



$[AB] \perp [BC]$
$m(\widehat{BAC}) = 30°$
$|BC| = 4$ br
$\Rightarrow |AB| = x = ?$

A) 2 B) 4 C) $2\sqrt{3}$ D) $4\sqrt{3}$ E) 8

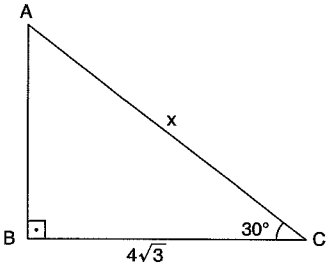
2.



$m(\widehat{A}) = \alpha$
$m(\widehat{B}) = 3\alpha$
$m(\widehat{C}) = 2\alpha$
$|AC| = 10$ br
$\Rightarrow |BC| = x = ?$

A) 5 B) $5\sqrt{3}$ C) 10 D) $10\sqrt{3}$ E) 30

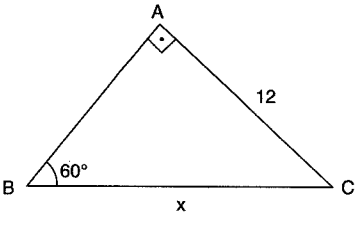
3.



$[AB] \perp [BC]$
$m(\widehat{ACB}) = 30°$
$|BC| = 4\sqrt{3}$ br
$\Rightarrow |AC| = x = ?$

A) 2 B) $2\sqrt{3}$ C) 4 D) 8 E) $8\sqrt{3}$

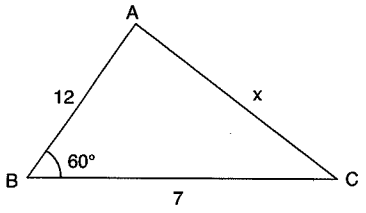
4.



$[BA] \perp [AC]$
$m(\widehat{ABC}) = 60°$
$|AC| = 12$ br
$\Rightarrow |BC| = x = ?$

A) 3 B) $3\sqrt{3}$ C) 6 D) $6\sqrt{3}$ E) $8\sqrt{3}$

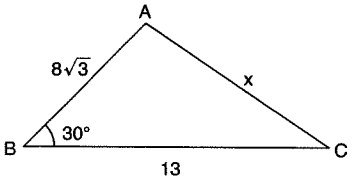
5.



$m(\widehat{ABC}) = 60°$
$|AB| = 12$ br
$|BC| = 7$ br
$\Rightarrow |AC| = x = ?$

A) $\sqrt{74}$ B) $\sqrt{101}$ C) $\sqrt{107}$ D) $\sqrt{109}$ E) $\sqrt{111}$

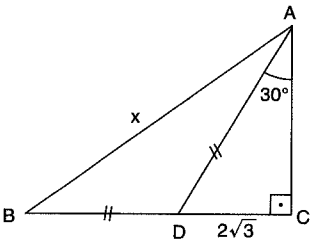
6.



$m(\widehat{ABC}) = 30$
$|AB| = 8\sqrt{3}$ br
$|BC| = 13$ br
$\Rightarrow |AC| = x = ?$

A) 4 B) 5 C) 6 D) 7 E) 8

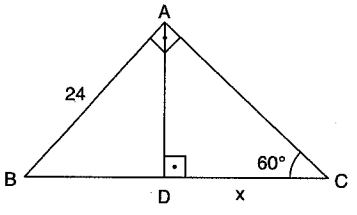
7.



$[AC] \perp [BC]$
$|AD| = |BD|$
$|DC| = 2\sqrt{3}$ br
$\Rightarrow |AB| = x = ?$

A) $4\sqrt{3}$ B) 6 C) $6\sqrt{3}$ D) 12 E) $12\sqrt{3}$

8.

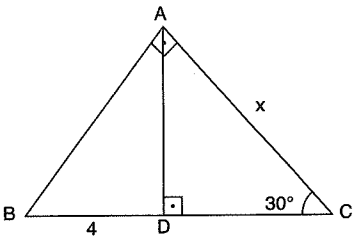


$[BA] \perp [AC]$
$[AD] \perp [BC]$
$m(\widehat{ACB}) = 60°$
$|AB| = 24$ br
$\Rightarrow |DC| = x = ?$

A) $4\sqrt{3}$ B) $6\sqrt{3}$ C) 6 D) 8 E) $8\sqrt{3}$

PUZA YAYINLARI

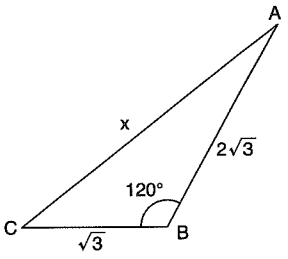
9.



$[BA] \perp [AC]$
$[AD] \perp [BC]$
$m(\widehat{ACB}) = 30°$
$|BD| = 4$ br
$\Rightarrow |AC| = x = ?$

A) 2 B) $2\sqrt{3}$ C) 4 D) $4\sqrt{3}$ E) $8\sqrt{3}$

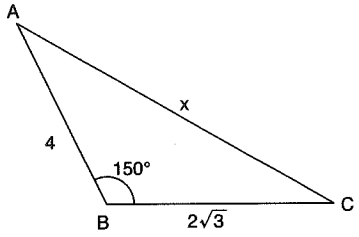
10.



$m(\widehat{ABC}) = 120°$
$|AB| = 2\sqrt{3}$ br
$|BC| = \sqrt{3}$ br
$\Rightarrow |AC| = x = ?$

A) $3\sqrt{3}$ B) 9 C) $4\sqrt{3}$ D) $5\sqrt{3}$ E) $\sqrt{21}$

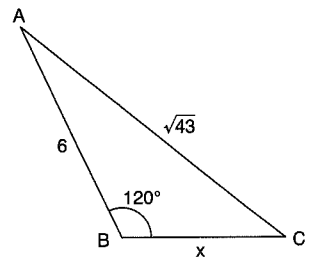
11.



$m(\widehat{ABC}) = 150°$
$|AB| = 4$ br
$|BC| = 2\sqrt{3}$ br
$\Rightarrow |AC| = x = ?$

A) 4 B) $2\sqrt{3}$ C) $\sqrt{7}$
D) 6 E) $2\sqrt{13}$

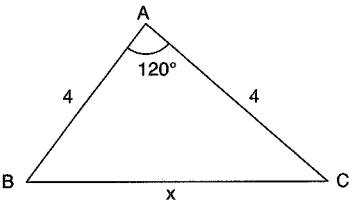
12.



$m(\widehat{ABC}) = 120°$
$|AB| = 6$ br
$|AC| = \sqrt{43}$ br
$\Rightarrow |BC| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

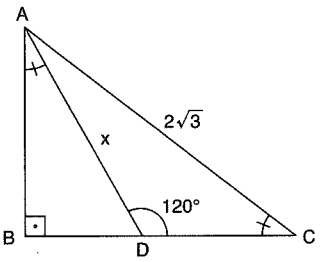
13.



$m(\widehat{BAC}) = 120°$
$|AB| = |AC| = 4$ br
$\Rightarrow |BC| = x = ?$

A) 1 B) 2 C) 4 D) $4\sqrt{2}$ E) $4\sqrt{3}$

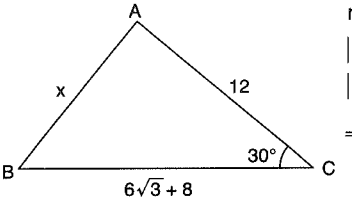
14.



$m(\widehat{BAD}) = m(\widehat{ACB})$
$|AC| = 2\sqrt{3}$
$m(\widehat{ADC}) = 120°$
$\Rightarrow |AD| = x = ?$

A) 2 B) $2\sqrt{3}$ C) 6 D) $6\sqrt{2}$ E) $6\sqrt{3}$

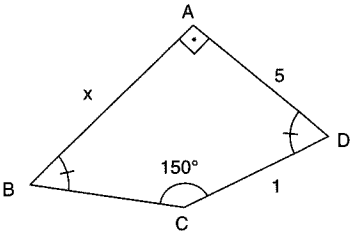
15.



$m(\widehat{ACB}) = 30°$
$|AC| = 12$ br
$|BC| = 6\sqrt{3} + 8$ br
$\Rightarrow |AB| = x = ?$

A) 6 B) 8 C) 10 D) 12 E) 13

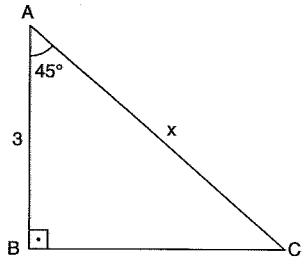
16.



$m(\widehat{BCD}) = 150°$
$[BA] \perp [AD]$
$m(\widehat{B}) = m(\widehat{D})$
$|AD| = 5$ br
$|DC| = 1$ br
$\Rightarrow |AB| = x = ?$

A) 1 B) $\sqrt{2}$ C) $\sqrt{3}$ D) $2\sqrt{3}$ E) 6

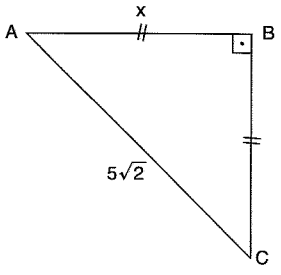
1.



$[AB] \perp [BC]$
$m(\widehat{BAC}) = 45°$
$|AB| = 3$ br
$\Rightarrow |AC| = x = ?$

A) $\frac{3}{2}$ B) $\frac{3\sqrt{2}}{2}$ C) 3 D) $3\sqrt{2}$ E) 6

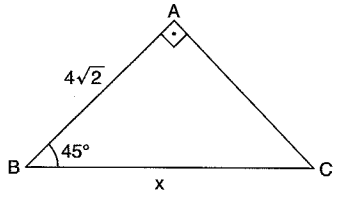
2.



$[AB] \perp [BC]$
$|AB| = |BC|$
$|AC| = 5\sqrt{2}$ br
$\Rightarrow |AB| = x = ?$

A) 10 B) $5\sqrt{3}$ C) 5 D) $\frac{5\sqrt{2}}{2}$ E) $\frac{5}{2}$

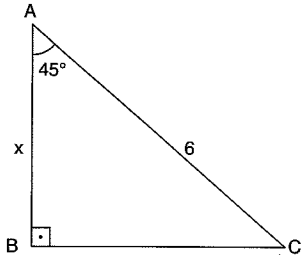
3.



$[BA] \perp [AC]$
$m(\widehat{ABC}) = 45°$
$|AB| = 4\sqrt{2}$ br
$\Rightarrow |BC| = x = ?$

A) $2\sqrt{2}$ B) 4 C) $4\sqrt{2}$ D) 8 E) $8\sqrt{2}$

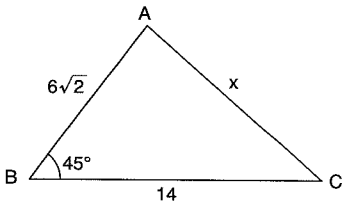
4.



$[AB] \perp [BC]$
$m(\widehat{BAC}) = 45°$
$|AC| = 6$ br
$\Rightarrow |AB| = x = ?$

A) 3 B) $3\sqrt{2}$ C) 6 D) $6\sqrt{2}$ E) 12

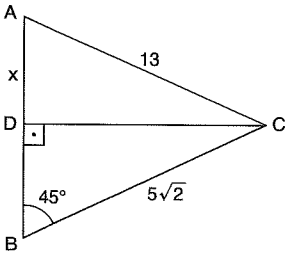
5.



$m(\widehat{ABC}) = 45°$
$|AB| = 6\sqrt{2}$ br
$|BC| = 14$ br
$\Rightarrow |AC| = x = ?$

A) 6 B) 8 C) $6\sqrt{2}$ D) $8\sqrt{2}$ E) 10

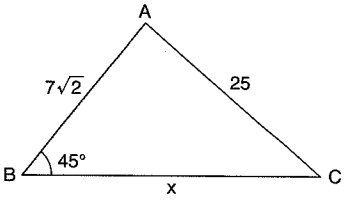
6.



$[CD] \perp [AB]$
$m(\widehat{ABC}) = 45°$
$|AC| = 13$ br
$|BC| = 5\sqrt{2}$ br
$\Rightarrow |AD| = x = ?$

A) 5 B) $5\sqrt{2}$ C) 12 D) $13\sqrt{2}$ E) 26

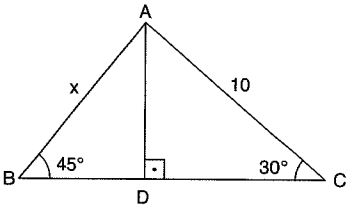
7.



$m(\widehat{ABC}) = 45°$
$|AB| = 7\sqrt{2}$ br
$|AC| = 25$ br
$\Rightarrow |BC| = x = ?$

A) 7 B) $7\sqrt{2}$ C) 24 D) 25 E) 31

8.

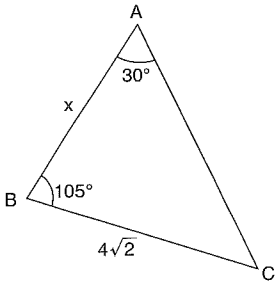


$[AD] \perp [BC]$
$m(\widehat{ABC}) = 45°$
$m(\widehat{ACB}) = 30°$
$|AC| = 10$ br
$\Rightarrow |AB| = x = ?$

A) 5 B) $5\sqrt{2}$ C) $5\sqrt{3}$ D) $\sqrt{6}$ E) $10\sqrt{2}$

PUZA YAYINLARI

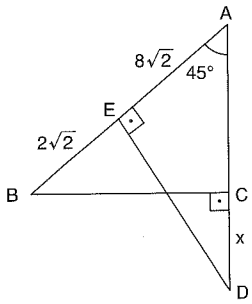
9.



$m(\widehat{ABC}) = 105°$
$m(\widehat{BAC}) = 30°$
$|BC| = 4\sqrt{2}$ br
$\Rightarrow |AB| = x = ?$

A) 2 B) $2\sqrt{2}$ C) 4 D) $4\sqrt{2}$ E) 8

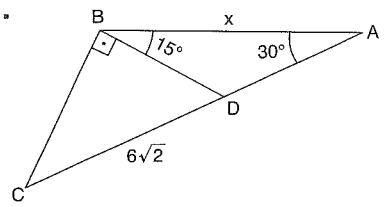
10.



$[DE] \perp [AB]$
$[BC] \perp [AD]$
$m(\widehat{BAC}) = 45°$
$|AE| = 8\sqrt{2}$
$|BE| = 2\sqrt{2}$
$\Rightarrow |DC| = x = ?$

A) 2 B) 4 C) 6 D) 8 E) 10

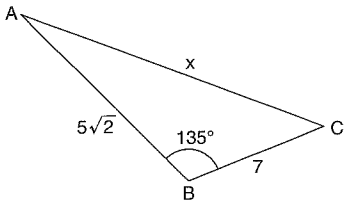
11.



$[DB] \perp [BC]$
$m(\widehat{BAC}) = 30°$
$m(\widehat{DBA}) = 15°$
$|DC| = 6\sqrt{2}$ br
$\Rightarrow |AB| = x = ?$

A) $2\sqrt{2}$ B) $3\sqrt{2}$ C) $4\sqrt{2}$ D) $5\sqrt{2}$ E) $6\sqrt{2}$

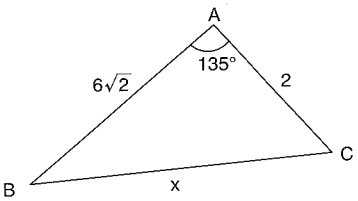
12.



$m(\widehat{ABC}) = 135°$
$|BC| = 7$ br
$|AB| = 5\sqrt{2}$ br
$\Rightarrow |AC| = x = ?$

A) 5 B) $5\sqrt{2}$ C) $7\sqrt{2}$ D) 13 E) 14

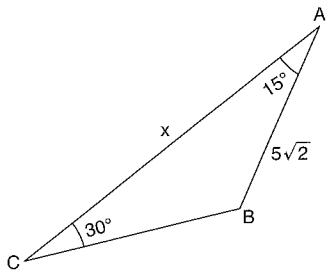
13.



$m(\widehat{BAC}) = 135°$
$|AC| = 2$ br
$|AB| = 6\sqrt{2}$ br
$\Rightarrow |BC| = x = ?$

A) 4 B) 6 C) 8 D) $8\sqrt{2}$ E) 10

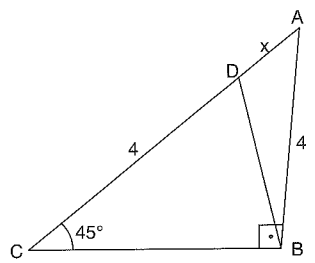
14.



$m(\widehat{BAC}) = 15°$
$m(\widehat{ACB}) = 30°$
$|AB| = 5\sqrt{2}$
$\Rightarrow |AC| = x = ?$

A) 5 B) 6 C) 8 D) $8\sqrt{2}$ E) 10

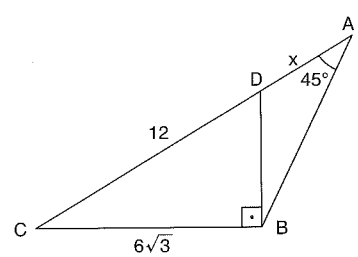
15.



$[AB] \perp [BC]$
$m(\widehat{ACB}) = 45°$
$|AB| = |CD| = 4$ br
$\Rightarrow |AD| = x = ?$

A) $(\sqrt{3}-1)$ B) $2(\sqrt{2}-1)$
C) $4(\sqrt{2}-1)$ D) $2(\sqrt{2}+1)$
E) $4(\sqrt{3}+1)$

16.

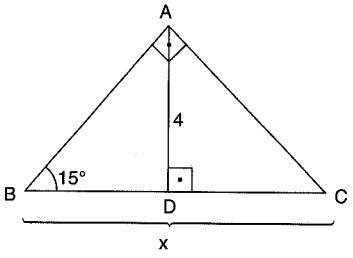


$[CB] \perp [BD]$
$m(\widehat{CAB}) = 45°$
$|DC| = 12$ br
$|BC| = 6\sqrt{3}$ br
$\Rightarrow |AD| = x = ?$

A) $(\sqrt{3}-1)$ B) $2(\sqrt{3}-1)$
C) $3(\sqrt{3}-1)$ D) $2(\sqrt{3}+1)$
E) $3(\sqrt{3}+1)$

PUZA YAYINLARI

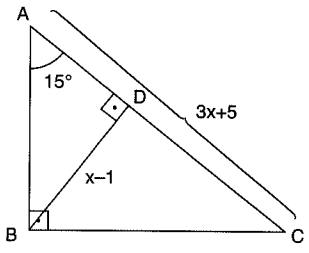
1.



$[BA] \perp [AC]$
$[AD] \perp [BC]$
$m(\widehat{ABC}) = 15°$
$|AD| = 4$ br
$\Rightarrow |BC| = x = ?$

A) 1 B) 2 C) 4 D) 8 E) 16

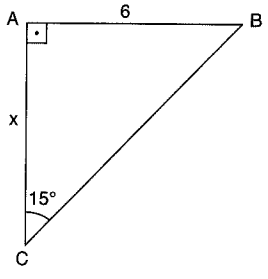
2.



$[AB] \perp [BC]$
$[BD] \perp [AC]$
$|AC| = 3x + 5$
$|BD| = x - 1$
$m(\widehat{BAC}) = 15°$
$\Rightarrow x = ?$

A) 7 B) 8 C) 9 D) 10 E) 11

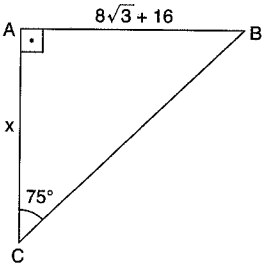
3.



$[BA] \perp [AC]$
$|AB| = 6$ br
$m(\widehat{ACB}) = 15°$
$\Rightarrow |AC| = x = ?$

A) $6(\sqrt{3}+2)$ B) $6(\sqrt{3}+1)$
C) $6(\sqrt{3}-1)$ D) $3(\sqrt{3}+1)$
E) $3(\sqrt{3}-1)$

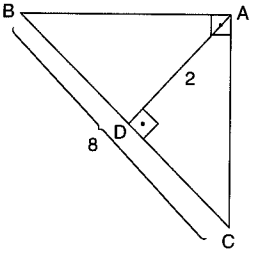
4.



$[BA] \perp [AC]$
$m(\widehat{ACB}) = 75°$
$|AB| = 8\sqrt{3} + 16$ br
$\Rightarrow |AC| = x = ?$

A) 2 B) 3 C) 4 D) 6 E) 8

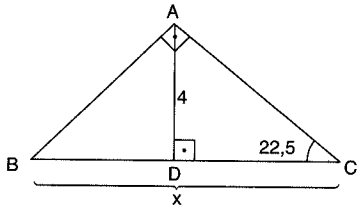
5.



$[BA] \perp [AC]$
$[AD] \perp [BC]$
$|AD| = 2$ br
$|BC| = 8$ br
$m(\widehat{B}) > m(\widehat{C})$
$\Rightarrow m(\widehat{B}) = ?$

A) 15 B) 30 C) 45 D) 60 E) 75

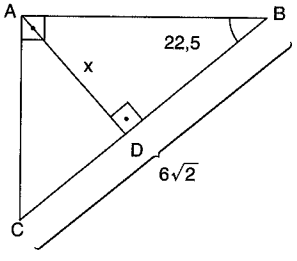
6.



$[BA] \perp [AC]$
$[AD] \perp [BC]$
$|AD| = 4$ br
$m(\widehat{ACB}) = 22,5°$
$\Rightarrow |BC| = x = ?$

A) 4 B) $4\sqrt{2}$ C) $8\sqrt{2}$ D) 16 E) $16\sqrt{2}$

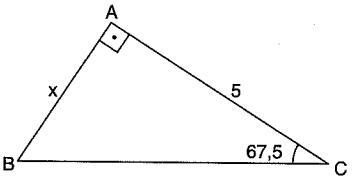
7.



$[BA] \perp [AC]$
$[AD] \perp [BC]$
$m(\widehat{ABC}) = 22,5°$
$|BC| = 6\sqrt{2}$ br
$\Rightarrow |AD| = x = ?$

A) 2 B) 3 C) $3\sqrt{2}$ D) 6 E) $6\sqrt{2}$

8.

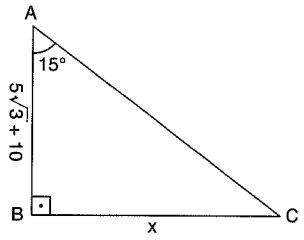


$[BA] \perp [AC]$
$m(\widehat{ABC}) = 67,5°$
$|AC| = 5$ br
$\Rightarrow |AB| = x = ?$

A) $5(\sqrt{2}+1)$ B) $10(\sqrt{2}+1)$
C) $5(\sqrt{2}-1)$ D) $10(\sqrt{2}-1)$
E) $5\sqrt{2}$

PUZA YAYINLARI

9.



$[AB] \perp [BC]$

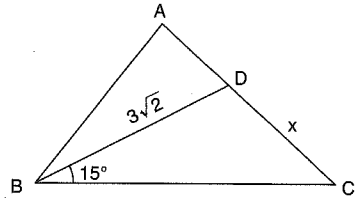
$m(\widehat{BAC}) = 15°$

$|AB| = 5\sqrt{3} + 10$ br

$\Rightarrow |BC| = x = ?$

A) 4 B) 5 C) 6 D) 8 E) 10

10.



ABC eşkenar üçgen

ABC equilateral triangle

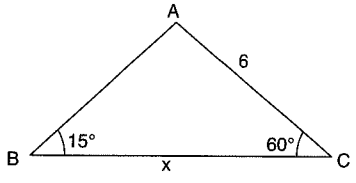
$m(\widehat{DBC}) = 15°$

$|BD| = 3\sqrt{2}$

$\Rightarrow |DC| = x = ?$

A) $3+\sqrt{3}$ B) 2 C) 3 D) $3-\sqrt{3}$ E) $2+\sqrt{3}$

11.



$m(\widehat{ACB}) = 60°$

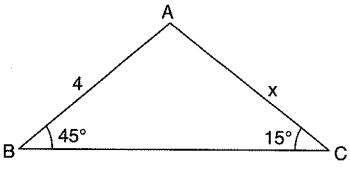
$m(\widehat{ABC}) = 15°$

$|AC| = 6$ br

$\Rightarrow |BC| = x = ?$

A) $12(1+\sqrt{3})$ B) $6(2+\sqrt{3})$ C) $6(1+\sqrt{3})$ D) $3(1+2\sqrt{3})$ E) $66\sqrt{3}$

12.



$m(\widehat{ABC}) = 45°$

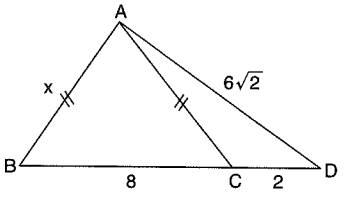
$m(\widehat{ACB}) = 15°$

$|AB| = 4$ br

$\Rightarrow |AC| = x = ?$

A) $4(1+\sqrt{3})$ B) $2(2+\sqrt{3})$ C) $2(1+2\sqrt{3})$ D) $4\sqrt{3}$ E) 4

13.



$|AB| = |AC|$

$|BC| = 8$ br

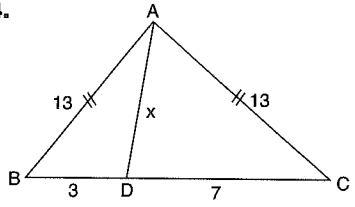
$|AD| = 6\sqrt{2}$ br

$|CD| = 2$ br

$\Rightarrow |AB| = x = ?$

A) 4 B) $4\sqrt{2}$ C) $\sqrt{13}$ D) $2\sqrt{13}$ E) 10

14.



$|AB| = |AC| = 13$ br

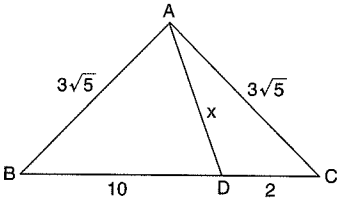
$|BD| = 3$ br

$|DC| = 7$ br

$\Rightarrow |AD| = x = ?$

A) $\sqrt{37}$ B) $\sqrt{39}$ C) 7 D) $2\sqrt{37}$ E) $2\sqrt{39}$

15.



$|AB| = 3\sqrt{5}$ br

$|AC| = 3\sqrt{5}$ br

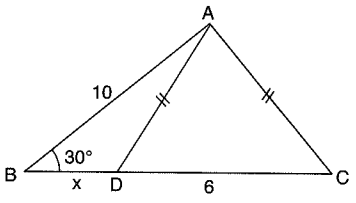
$|BD| = 10$ br

$|DC| = 2$ br

$\Rightarrow |AD| = x = ?$

A) $\sqrt{5}$ B) $\sqrt{10}$ C) 5 D) 10 E) $10\sqrt{2}$

16.



$|AD| = |AC|$

$m(\widehat{ABC}) = 30°$

$|AB| = 10$ br

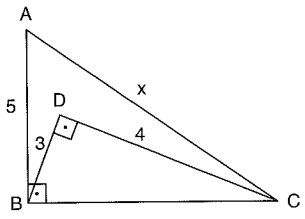
$|DC| = 6$ br

$\Rightarrow |BD| = x = ?$

A) $\sqrt{3}$ B) $2\sqrt{3}$ C) $5\sqrt{3}$ D) $5(\sqrt{3}-1)$ E) $5\sqrt{3}-3$

PUZA YAYINLARI

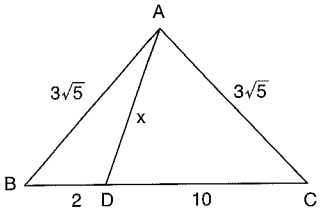
1.



$[AB] \perp [BC]$
$[BD] \perp [DC]$
$|AB| = 5$ br
$|DC| = 4$ br
$|BD| = 3$ br
$\Rightarrow |AC| = x = ?$

A) 10 B) 8 C) $5\sqrt{3}$ D) $5\sqrt{2}$ E) 5

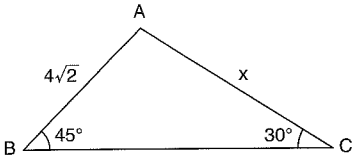
2.



$|AB| = |AC| = 3\sqrt{5}$ br
$|BD| = 2$ br
$|DC| = 10$ br
$\Rightarrow |AD| = x = ?$

A) $5\sqrt{2}$ B) 5 C) 4 D) $4\sqrt{2}$ E) 3

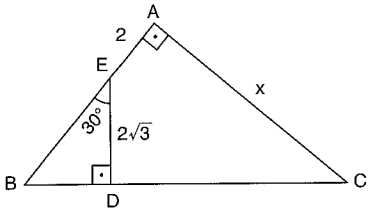
3.



$|AB| = 4\sqrt{2}$ br
$m(\widehat{ABC}) = 45°$
$m(\widehat{ACB}) = 30°$
$\Rightarrow |AC| = x = ?$

A) $4\sqrt{3}$ B) 8 C) $6\sqrt{2}$ D) 6 E) 12

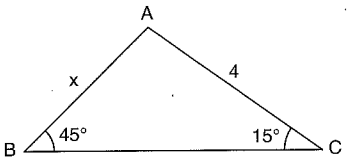
4.



$[BA] \perp [AC]$
$[ED] \perp [BC]$
$m(\widehat{BED}) = 30°$
$|ED| = 2\sqrt{3}$ br
$|EA| = 2$ br
$\Rightarrow |AC| = x = ?$

A) 4 B) $4\sqrt{3}$ C) 8 D) $6\sqrt{3}$ E) 12

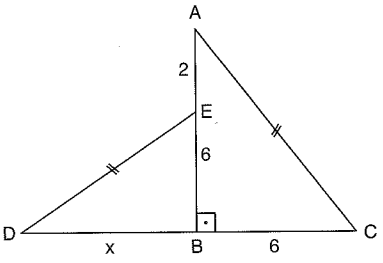
5.



$m(\widehat{ABC}) = 45°$
$m(\widehat{ACB}) = 15°$
$|AC| = 4$ br
$\Rightarrow |AB| = x = ?$

A) 2 B) $2\sqrt{3}$ C) $2\sqrt{3} - 2$
D) $2\sqrt{3} + 2$ E) $6\sqrt{2}$

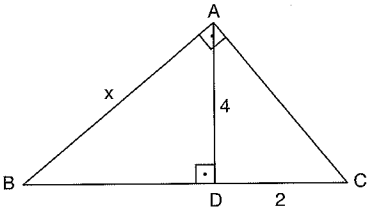
6.



$|AC| = |DE|$
$[AB] \perp [DC]$
$|AE| = 2$ br
$|EB| = 6$ br
$|BC| = 6$ br
$\Rightarrow |BD| = x = ?$

A) 4 B) 6 C) 8 D) 10 E) 15

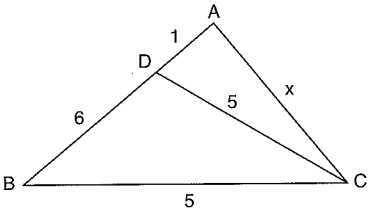
7.



$[BA] \perp [AC]$
$[AD] \perp [BC]$
$|AD| = 4$ br
$|DC| = 2$ br
$\Rightarrow |AB| = x = ?$

A) $4\sqrt{2}$ B) 5 C) $4\sqrt{5}$ D) 10 E) $8\sqrt{5}$

8.

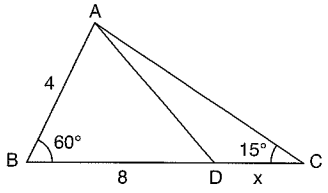


$|DC| = |BC| = 5$ br
$|AD| = 1$ br
$|BD| = 6$ br
$\Rightarrow |AC| = x = ?$

A) $4\sqrt{2}$ B) 5 C) 6 D) $6\sqrt{2}$ E) 8

PUZA YAYINLARI

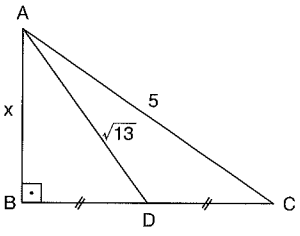
9.



$m(\widehat{ABC}) = 60°$
$m(\widehat{ACB}) = 15°$
$|AB| = 4$ br
$|BD| = 8$ br
$\Rightarrow |DC| = x = ?$

A) 4 B) $4\sqrt{3}$ C) 6 D) $6\sqrt{3}$ E) $2\sqrt{3}$

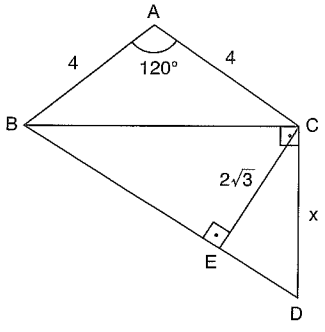
10.



$|BD| = |DC|$
$[AB] \perp [BC]$
$|AC| = 5$ br
$|AD| = \sqrt{13}$ br
$\Rightarrow |AB| = x = ?$

A) 2 B) 3 C) $3\sqrt{2}$ D) 4 E) $4\sqrt{2}$

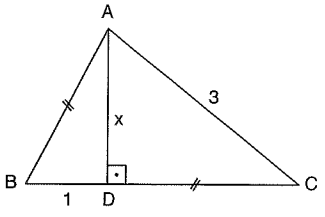
11.



$m(\widehat{BAC}) = 120°$
$[CE] \perp [BD]$
$[BC] \perp [CD]$
$|AB| = |AC| = 4$ br
$|EC| = 2\sqrt{3}$ br
$\Rightarrow |CD| = x = ?$

A) 2 B) 4 C) 6 D) $6\sqrt{3}$ E) 8

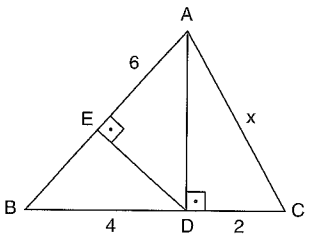
12.



$[AD] \perp [BC]$
$|AB| = |DC|$
$|AC| = 3$ br
$|BD| = 1$ br
$\Rightarrow |AD| = x = ?$

A) $\frac{1}{2}$ B) 1 C) $\frac{3}{2}$ D) 2 E) $\frac{5}{2}$

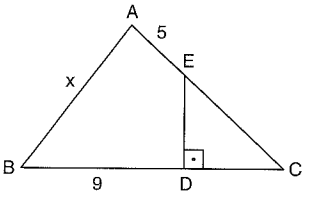
13.



$[DE] \perp [AB]$
$[AD] \perp [BC]$
$|AE| = 6$ br
$|DC| = 2$ br
$|BD| = 4$ br
$\Rightarrow |AC| = x = ?$

A) $4\sqrt{2}$ B) 5 C) $\sqrt{17}$ D) $2\sqrt{13}$ E) $2\sqrt{17}$

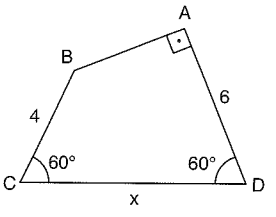
14.



ABC eşkenar üçgen
ABC equilateral triangle
$[ED] \perp [BC]$
$|AE| = 5$ br
$|BD| = 9$ br
$\Rightarrow |AB| = x = ?$

A) 14 B) 13 C) 12 D) 11 E) 10

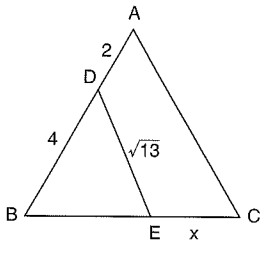
15.



$m(\widehat{BCD}) = 60°$
$m(\widehat{CDA}) = 60°$
$[BA] \perp [AD]$
$|BC| = 4$ br
$|AD| = 6$ br
$\Rightarrow |CD| = x = ?$

A) 6 B) 8 C) 10 D) 12 E) 14

16.



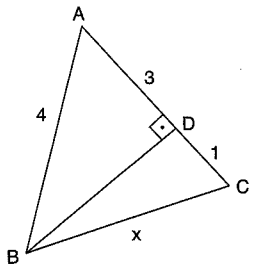
ABC eşkenar üçgen
ABC equilateral triangle
$|AD| = 2$ br
$|BD| = 4$ br
$|DE| = \sqrt{13}$ br
$\Rightarrow |EC| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

PUZA YAYINLARI

www.ztcprep.com

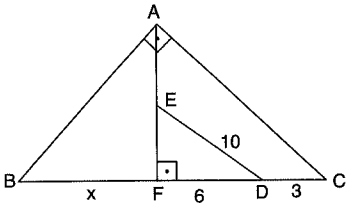
1.



$[BD] \perp [AC]$
$|AB| = 4$ br
$|AD| = 3$ br
$|DC| = 1$ br
$\Rightarrow |BC| = x = ?$

A) $2\sqrt{2}$ B) $3\sqrt{2}$ C) $\sqrt{26}$ D) $2\sqrt{26}$ E) 26

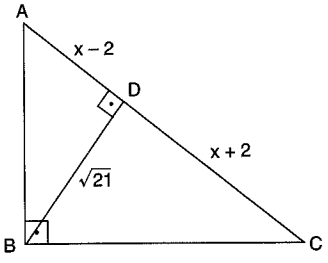
2.



$2|AE| = |EF|$
$[BA] \perp [AC]$
$[AF] \perp [BC]$
$|ED| = 10$ br
$|FD| = 6$ br
$|DC| = 3$ br
$\Rightarrow |BF| = x = ?$

A) 4 B) 6 C) 9 D) 12 E) 16

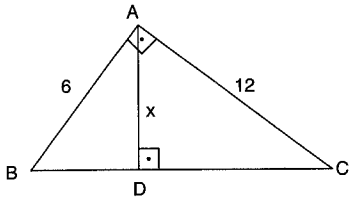
3.



$[AB] \perp [BC]$
$[BD] \perp [AC]$
$|BD| = \sqrt{21}$ br
$|AD| = x - 2$
$|DC| = x + 2$
$\Rightarrow |AC| = ?$

A) 4 B) 5 C) 6 D) 8 E) 10

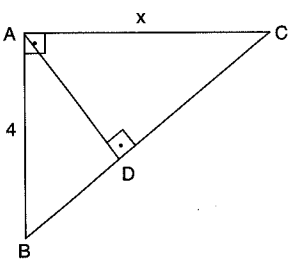
4.



$[BA] \perp [AC]$
$[AD] \perp [BC]$
$|AB| = 6$ br
$|AC| = 12$ br
$\Rightarrow |AD| = x = ?$

A) 3 B) 6 C) $6\sqrt{5}$ D) $\frac{12\sqrt{5}}{5}$ E) $12\sqrt{5}$

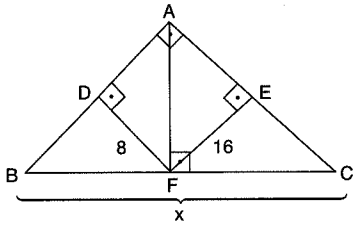
5.



$[BA] \perp [AC]$
$[AD] \perp [BC]$
$|DC| = 3|BD|$
$|AB| = 4$ br
$\Rightarrow |AC| = x = ?$

A) $\sqrt{3}$ B) $2\sqrt{3}$ C) $4\sqrt{3}$ D) $6\sqrt{3}$ E) $8\sqrt{3}$

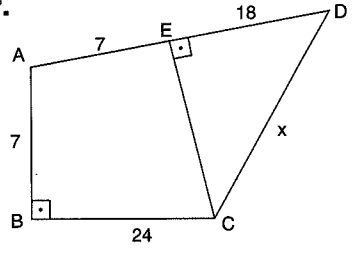
6.



AEFD dikdörtgen
AEFD rectangle
$[AF] \perp [BC]$
$|DF| = 8$ br
$|EF| = 16$ br
$\Rightarrow |BC| = x = ?$

A) $4\sqrt{5}$ B) $8\sqrt{5}$ C) $12\sqrt{5}$ D) $16\sqrt{5}$ E) $20\sqrt{5}$

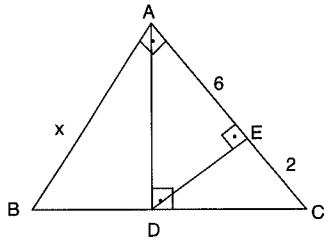
7.



$[AB] \perp [BC]$
$[CE] \perp [AD]$
$|BA| = |AE| = 7$ br
$|ED| = 18$ br
$|BC| = 24$ br
$\Rightarrow |DC| = x = ?$

A) 18 B) 20 C) 24 D) 25 E) 30

8.

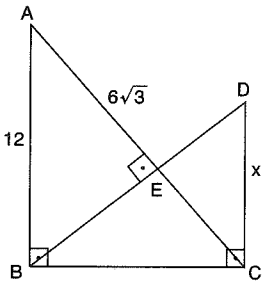


$[BA] \perp [AC]$
$[AD] \perp [BC]$
$[DE] \perp [AC]$
$|AE| = 6$ br
$|EC| = 2$ br
$\Rightarrow |AB| = x = ?$

A) $\sqrt{3}$ B) $2\sqrt{3}$ C) 6 D) $4\sqrt{3}$ E) $8\sqrt{3}$

PUZA YAYINLARI

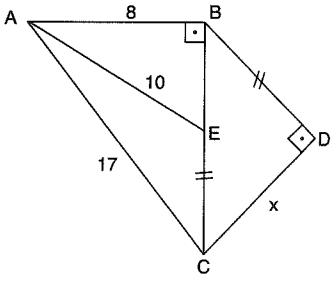
9.



[AB] ⊥ [BC]
[BC] ⊥ [DC]
[BE] ⊥ [AC]
|AE| = $6\sqrt{3}$ br
|AB| = 12 br
⇒ |DC| = x = ?

A) $2\sqrt{3}$ B) $3\sqrt{3}$ C) 4 D) $4\sqrt{3}$ E) $6\sqrt{3}$

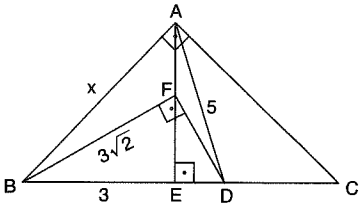
10.



[AB] ⊥ [BC]
[BD] ⊥ [DC]
|BD| = |EC|
|AB| = 8 br
|AE| = 10 br
|AC| = 17 br
⇒ |DC| = x = ?

A) 6 B) 9 C) 12 D) 15 E) 20

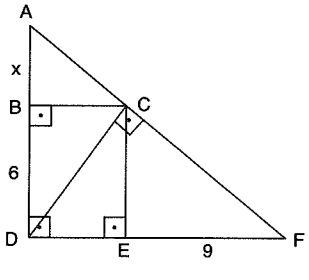
11.



[BA] ⊥ [AC]
[BF] ⊥ [FD]
[AE] ⊥ [BC]
|BF| = $3\sqrt{2}$ br
|AD| = 5 br
|BE| = 3 br
⇒ |AB| = x = ?

A) 5 B) $5\sqrt{3}$ C) 15 D) $\sqrt{30}$ E) 30

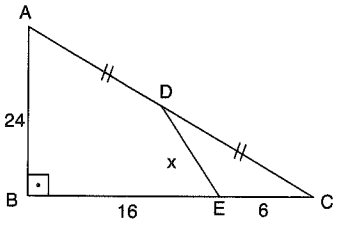
12.



BCED dikdörtgen
BCED rectangle
[DC] ⊥ [AF]
|BD| = 6 br
|EF| = 9 br
⇒ |AB| = x = ?

A) $\frac{4}{3}$ B) $\frac{8}{3}$ C) $\frac{16}{3}$ D) $\frac{7}{2}$ E) 7

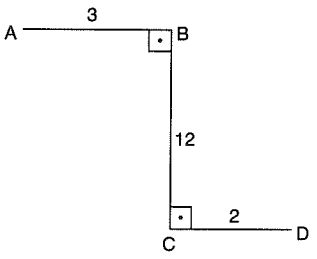
13.



[AB] ⊥ [BC]
|AD| = |DC|
|BE| = 16 br
|EC| = 6 br
|AB| = 24 br
⇒ |DE| = x = ?

A) 10 B) 12 C) 13 D) 15 E) 20

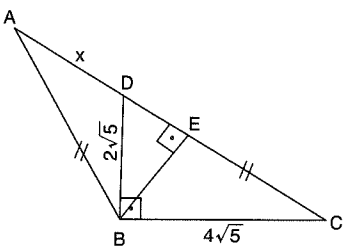
14.



[AB] ⊥ [BC]
[BC] ⊥ [CD]
|AB| = 3 br
|BC| = 12 br
|CD| = 2 br
⇒ |AD| = ?

A) 5 B) 10 C) 12 D) 13 E) 15

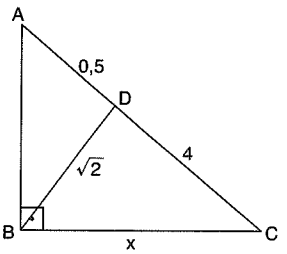
15.



[DB] ⊥ [BC]
[BE] ⊥ [DC]
|AB| = |EC|
|BD| = $2\sqrt{5}$ br
|BC| = $4\sqrt{5}$ br
⇒ |AD| = x = ?

A) $2(\sqrt{3}-1)$ B) $4(\sqrt{3}-1)$
C) $4\sqrt{3}-2$ D) $4(\sqrt{3}+1)$
E) $2(\sqrt{3}+1)$

16.



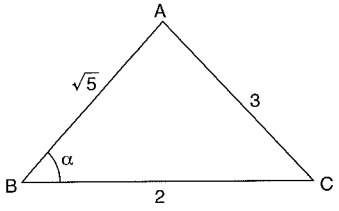
[AB] ⊥ [DC]
|AD| = 0,5 br
|DC| = 4 br
|BD| = $\sqrt{2}$ br
⇒ |BC| = x = ?

A) $\sqrt{2}$ B) $2\sqrt{2}$ C) $3\sqrt{2}$ D) $4\sqrt{2}$ E) $5\sqrt{2}$

© PUZA YAYINLARI

www.ztcprep.com

1.



$|AC| = 3$ br

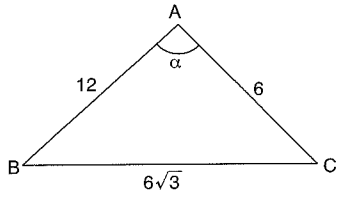
$|BC| = 2$ br

$|AB| = \sqrt{5}$ br

$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 90 B) 75 C) 60 D) 45 E) 30

2.



$|AC| = 6$ br

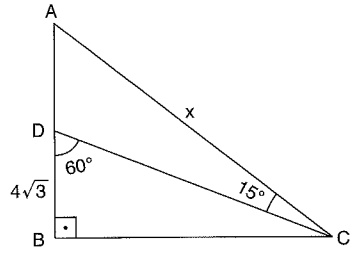
$|AB| = 12$ br

$|BC| = 6\sqrt{3}$ br

$\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 90 B) 75 C) 60 D) 45 E) 30

3.



$[AB] \perp [BC]$

$m(\widehat{CDB}) = 60°$

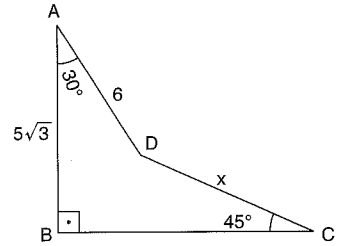
$m(\widehat{ACD}) = 15°$

$|DB| = 4\sqrt{3}$ br

$\Rightarrow |AC| = x = ?$

A) $8\sqrt{3}$ B) $12\sqrt{6}$ C) 12 D) $12\sqrt{2}$ E) $12\sqrt{3}$

4.



$[AB] \perp [BC]$

$m(\widehat{BAD}) = 30°$

$m(\widehat{BCD}) = 45°$

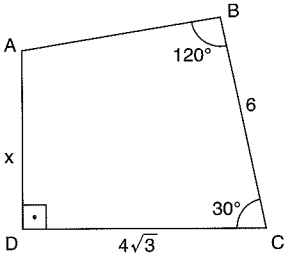
$|AD| = 6$ br

$|AB| = 5\sqrt{3}$ br

$\Rightarrow |DC| = x = ?$

A) 3 B) 6 C) $2\sqrt{3}$ D) $3\sqrt{3}$ E) $2\sqrt{6}$

5.



$[AD] \perp [DC]$

$m(\widehat{ABC}) = 120°$

$m(\widehat{BCD}) = 30°$

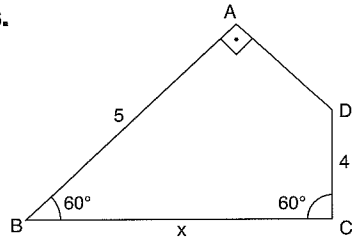
$|BC| = 6$ br

$|DC| = 4\sqrt{3}$ br

$\Rightarrow |AD| = x = ?$

A) 1 B) 2 C) 3 D) $2\sqrt{3}$ E) $3\sqrt{3}$

6.



$[BA] \perp [AD]$

$m(\widehat{ABC}) = 60°$

$m(\widehat{BCD}) = 60°$

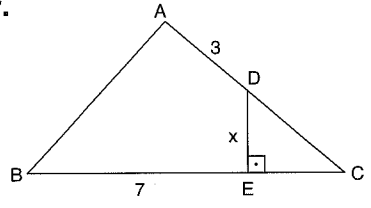
$|AB| = 5$ br

$|DC| = 4$ br

$\Rightarrow |BC| = x = ?$

A) 3 B) 4 C) 5 D) 6 E) 7

7.



ABC eşkenar üçgen

ABC equilateral triangle

$[DE] \perp [EC]$

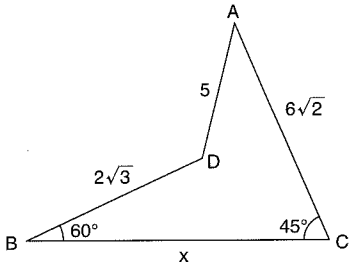
$|AD| = 3$ br

$|BE| = 7$ br

$\Rightarrow |DE| = x = ?$

A) 2 B) $2\sqrt{3}$ C) 4 D) $4\sqrt{3}$ E) $8\sqrt{3}$

8.



$m(\widehat{DAC}) > 45°$

$m(\widehat{DBC}) = 60°$

$m(\widehat{ACB}) = 45°$

$|AD| = 5$ br

$|AC| = 6\sqrt{2}$ br

$|BD| = 2\sqrt{3}$ br

$\Rightarrow |BC| = x = ?$

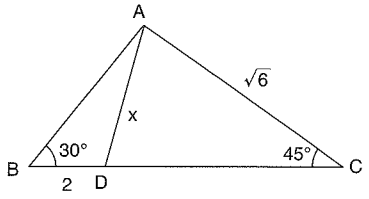
A) $4(\sqrt{3}+1)$ B) $4(\sqrt{3}+1)$

C) $6\sqrt{3}+1$ D) $10+\sqrt{3}$

E) $6+\sqrt{3}$

PUZA YAYINLARI

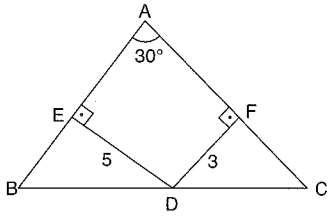
9.



$m(\widehat{ABC}) = 30°$
$m(\widehat{ACB}) = 45°$
$|AC| = \sqrt{6}$ br
$|BD| = 2$ br
$\Rightarrow |AD| = x = ?$

A) 1 B) 2 C) $\sqrt{3}$ D) $\sqrt{5}$ E) $\sqrt{6}$

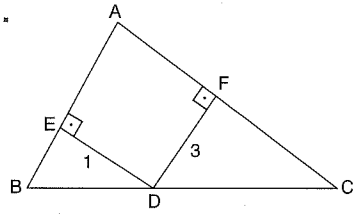
10.



$|AB| = |AC|$
$[DE] \perp [AB]$
$[DF] \perp [AC]$
$|DE| = 5$ br
$|DF| = 3$ br
$m(\widehat{BAC}) = 30°$
$\Rightarrow |AB| = ?$

A) 3 B) 5 C) 8 D) $8\sqrt{3}$ E) 16

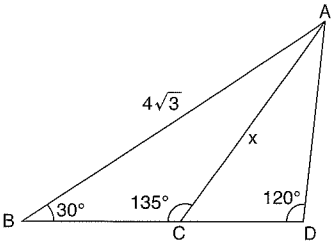
11.



$|AB| = |AC| = 5$ br
$[DE] \perp [AB]$
$[DF] \perp [AC]$
$|DE| = 1$ br
$|DF| = 3$ br
$\Rightarrow |BC| = ?$

A) 1 B) $\sqrt{2}$ C) $\sqrt{3}$ D) 4 E) $2\sqrt{5}$

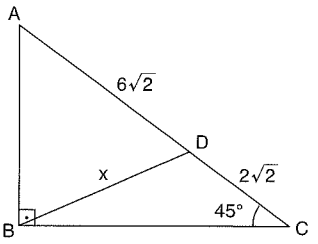
12.



$m(\widehat{ABD}) = 30°$
$m(\widehat{ACB}) = 135°$
$m(\widehat{ADB}) = 120°$
$|AB| = 4\sqrt{3}$ br
$\Rightarrow |AC| = x = ?$

A) $\sqrt{3}$ B) $2\sqrt{3}$ C) $4\sqrt{3}$ D) $2\sqrt{6}$ E) 6

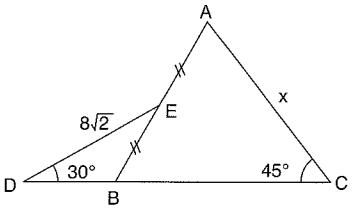
13.



$[AB] \perp [BC]$
$m(\widehat{BCA}) = 45°$
$|AD| = 6\sqrt{2}$ br
$|DC| = 2\sqrt{2}$ br
$\Rightarrow |BD| = x = ?$

A) 2 B) 3 C) $2\sqrt{7}+2$ D) $4\sqrt{2}$ E) $2\sqrt{10}$

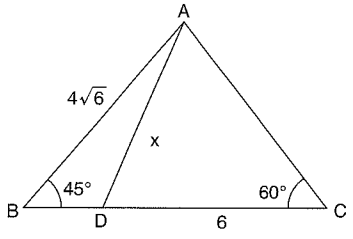
14.



$m(\widehat{ACD}) = 45°$
$m(\widehat{EDC}) = 30°$
$|AE| = |EB|$
$|DE| = 8\sqrt{2}$ br
$\Rightarrow |AC| = x = ?$

A) 4 B) 6 C) 8 D) 12 E) 16

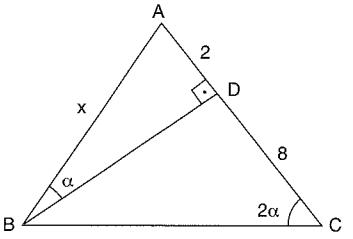
15.



$m(\widehat{ABC}) = 45$
$m(\widehat{ACB}) = 60°$
$|AB| = 4\sqrt{6}$ br
$|DC| = 6$ br
$\Rightarrow |AD| = x = ?$

A) $2\sqrt{3}$ B) $2\sqrt{13}$ C) $2\sqrt{7}$ D) $4\sqrt{10}$ E) $4\sqrt{7}$

16.

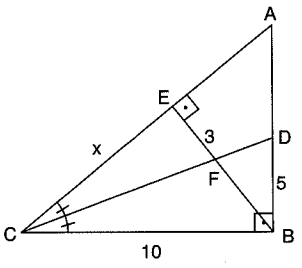


$[BD] \perp [AC]$
$m(\widehat{ACB}) = 2\alpha$
$m(\widehat{ABD}) = \alpha$
$|AD| = 2$ br
$|DC| = 8$ br
$\Rightarrow |AB| = x = ?$

A) $2\sqrt{6}$ B) $4\sqrt{2}$ C) $2\sqrt{10}$ D) $4\sqrt{3}$ E) $2\sqrt{15}$

PUZA YAYINLARI

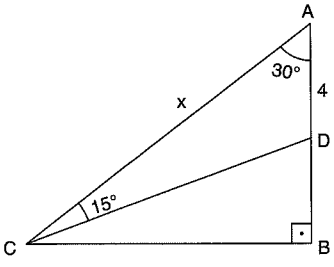
1.



$[AB] \perp [BC]$
$[BE] \perp [AC]$
$m(\widehat{ACD}) = m(\widehat{DCB})$
$|EF| = 3$ br
$|DB| = 5$ br
$|BC| = 10$ br
$\Rightarrow |EC| = x = ?$

A) 4 B) 5 C) 6 D) 10 E) 12

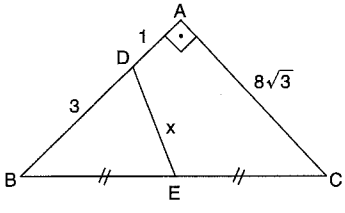
2.



$[AB] \perp [BC]$
$m(\widehat{CAB}) = 30°$
$m(\widehat{ACD}) = 15°$
$|AD| = 4$ br
$\Rightarrow |AC| = x = ?$

A) 6 B) 8 C) 10 D) $4(\sqrt{3}-1)$ E) $4(\sqrt{3}+1)$

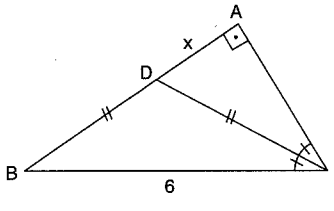
3.



$[BA] \perp [AC]$
$|BE| = |EC|$
$|AD| = 1$ br
$|BD| = 3$ br
$|AC| = 8\sqrt{3}$ br
$\Rightarrow |DE| = x = ?$

A) $\sqrt{2}$ B) $\sqrt{3}$ C) $\sqrt{5}$ D) 4 E) 7

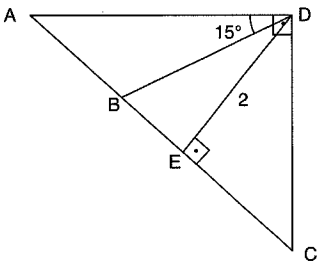
4.



$[BA] \perp [AC]$
$m(\widehat{ACD}) = m(\widehat{DCB})$
$|BD| = |DC|$
$|BC| = 6$ br
$\Rightarrow |AD| = x = ?$

A) $\sqrt{2}$ B) $\sqrt{3}$ C) 3 D) 4 E) $\sqrt{6}$

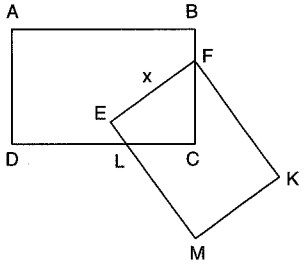
5.



$|BD| = |BC|$
$[AD] \perp [DC]$
$[DE] \perp [AC]$
$|ED| = 2$ br
$m(\widehat{ADB}) = 15°$
$\Rightarrow |AC| = ?$

A) $\frac{1}{2}$ B) 1 C) 2 D) 4 E) 8

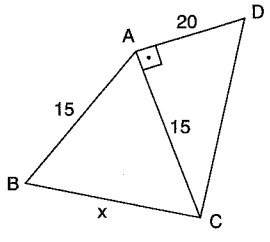
6.



ABCD, EFKM dikdörtgen
ABCD, EFKM rectangle
$|FC| = 5$ br
$|LC| = 3$ br
$|EL| = 4$ br
$\Rightarrow |EF| = x = ?$

A) $\sqrt{2}$ B) 3 C) $3\sqrt{2}$ D) $4\sqrt{2}$ E) 5

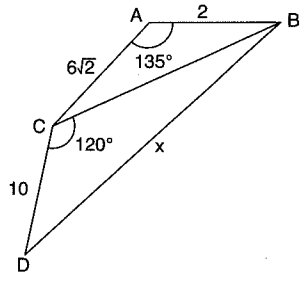
7.



$|AB| = |AC| = 15$ br
$m(\widehat{ADC}) = m(\widehat{ABC})$
$[DA] \perp [AC]$
$|AD| = 20$ br
$\Rightarrow |BC| = x = ?$

A) 9 B) 12 C) 15 D) 18 E) 24

8.

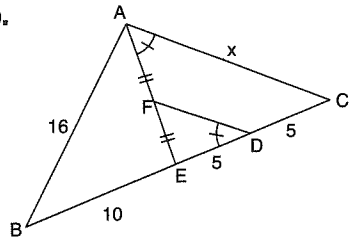


$m(\widehat{BAC}) = 135°$
$m(\widehat{BCD}) = 120°$
$|AB| = 2$ br
$|AC| = 6\sqrt{2}$ br
$|DC| = 10$ br
$\Rightarrow |BD| = x = ?$

A) 5 B) $5\sqrt{3}$ C) 10 D) $10\sqrt{2}$ E) $10\sqrt{3}$

PUZA YAYINLARI

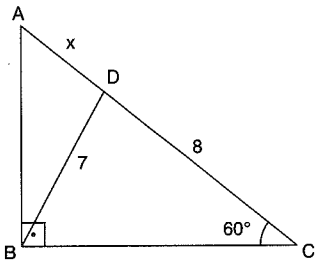
9.



$m(\widehat{EAC}) = m(\widehat{FDB})$
$|AF| = |FE|$
$|ED| = |DC| = 5$ br
$|BE| = 10$ br
$|AB| = 16$ br
$\Rightarrow |AC| = x = ?$

A) 6 B) 9 C) 12 D) 16 E) 20

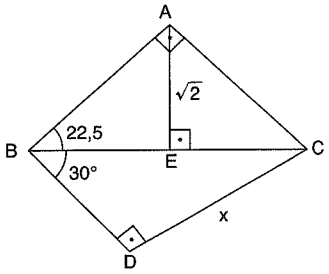
10.



$[AB] \perp [BC]$
$|DC| = 8$ br
$|BD| = 7$ br
$m(\widehat{ACB}) = 60°$
$\Rightarrow |AD| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 8

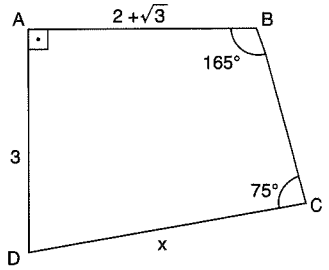
11.



$[BA] \perp [AC]$
$[AE] \perp [BC]$
$[BD] \perp [DC]$
$|AE| = \sqrt{2}$ br
$m(\widehat{ABC}) = 22,5°$
$m(\widehat{CBD}) = 30°$
$\Rightarrow |DC| = x = ?$

A) 1 B) $\sqrt{2}$ C) 2 D) $2\sqrt{2}$ E) 4

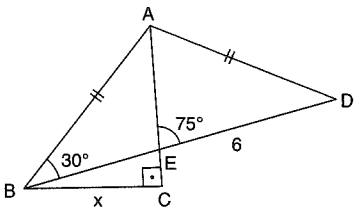
12.



$[DA] \perp [AB]$
$m(\widehat{ABC}) = 165°$
$|AB| = 2+\sqrt{3}$ br
$|AD| = 3$ br
$m(\widehat{BCD}) = 75°$
$\Rightarrow |DC| = x = ?$

A) $\sqrt{3}$ B) 3 C) $2\sqrt{3}$ D) 4 E) $5+2\sqrt{3}$

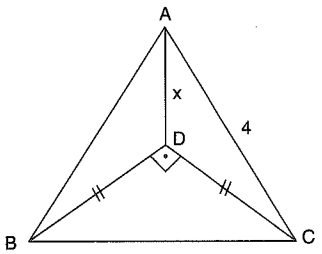
13.



$|BA| = |AD|$
$[AC] \perp [BC]$
$m(\widehat{ABD}) = 30°$
$m(\widehat{AED}) = 75°$
$|ED| = 6$ br
$\Rightarrow |BC| = x = ?$

A) 3 B) $3\sqrt{2}$ C) $3\sqrt{3}$ D) 6 E) $6\sqrt{2}$

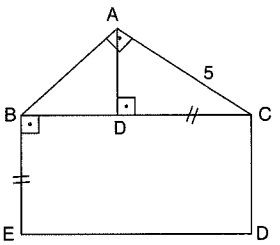
14.



ABC eşkenar üçgen
ABC equilateral triangle
$[BD] \perp [DC]$
$|BD| = |DC|$
$|AC| = 4$ br
$\Rightarrow |AD| = x = ?$

A) 2 B) $2\sqrt{3}-2$ C) $2\sqrt{3}$ D) $4\sqrt{3}$ E) 12

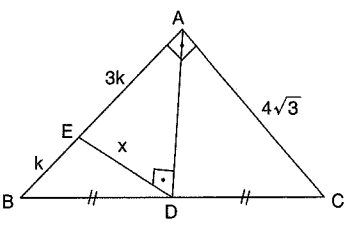
15.



BCDE dikdörtgen
BCDE rectangle
$[BA] \perp [AC]$
$[AD] \perp [BC]$
$|DC| = |BE|$
$|AC| = 5$ br
$\Rightarrow A(BCDE) = ?$

A) 5 B) 10 C) $5\sqrt{3}$ D) $10\sqrt{3}$ E) 25

16.

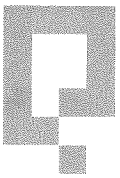


$[AB] \perp [AC]$
$[AD] \perp [DE]$
$|AE| = 3|EB|$
$|BD| = |DC|$
$|AC| = 4\sqrt{2}$
$\Rightarrow |ED| = x = ?$

A) $\sqrt{3}$ B) 3 C) $2\sqrt{3}$ D) $\sqrt{6}$ E) 6

PUZA YAYINLARI

ZTC زنگنه مجموعه موسسات



DİK ÜÇGEN RIGHT TRIANGLES
Yanıt Anahtarı Answer Key

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	B	C	E	A	B	D	B	A	C	E	B	B	E	C	D

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	C	B	A	D	D	D	B	D	B	C	A	B	B	E	C

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	D	C	C	C	E	B	E	B	E	E	A	B	A	D	D

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	A	D	E	D	D	D	A	E	E	E	A	E	A	C	D

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	D	B	E	C	E	B	E	C	E	D	E	E	C	C

TEST 6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	C	A	E	E	C	B	A	B	D	B	A	D	D	C	E

TEST 7

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	B	B	D	C	C	C	A	B	B	B	D	D	B	B	C

TEST 8

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	E	E	D	C	E	E	E	C	C	A	B	C	D	C	C

TEST 9

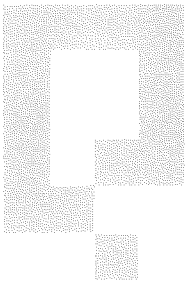
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	C	D	E	B	D	D	D	B	E	E	D	E	E	B	C

TEST 10

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	E	E	B	E	C	E	E	C	B	C	D	B	B	E	C

www.ztcprep.com

ZTC زنگنه
مجموعه موسسات

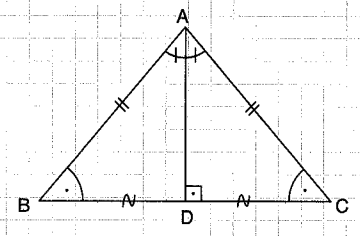


İKİZKENAR-EŞKENAR ÜÇGEN

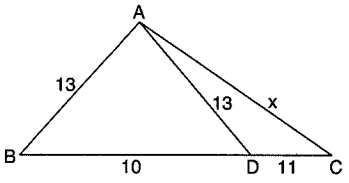
ISOSCELES-EQUILATERAL TRIANGLE

www.ztcprep.com

ÖZELLİK | Property 1



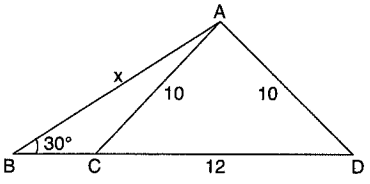
1.



⇒ x = ?

20

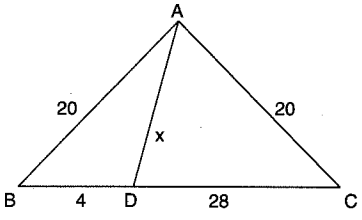
2.



⇒ x = ?

16

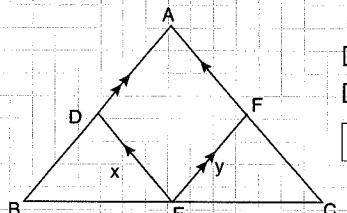
3.



⇒ x = ?

$12\sqrt{2}$

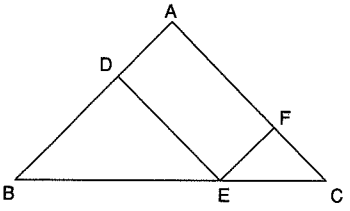
ÖZELLİK | Property 2



|AB| = |AC|
[EF] // [AB]
[DE] // [AC]

x + y = |AB| = |AC|

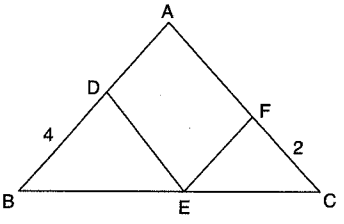
1.



|AB| = |AC|
[AD] // [EF]
[DE] // [AC]
Ç(ADEF) = 12 br
⇒ |AC| = ?

6

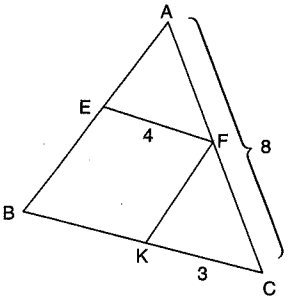
2.



ADEF paralelkenar
ADEF parallellogram
|AB| = |AC|
⇒ Ç(AFED) = ?

12

3.

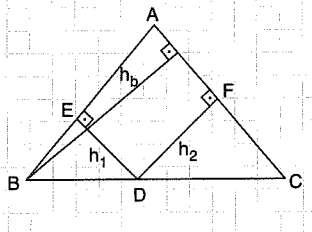


|BA| = |BC|
[EF] // [BC]
[FK] // [AB]
⇒ Ç(ABC) = ?

22

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

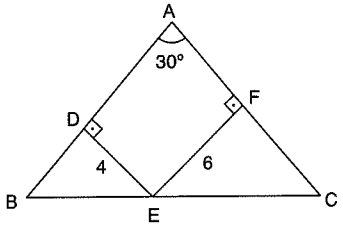
ÖZELLİK|Property 3



$|AB| = |AC|$

$h_1 + h_2 = h_b = h_c$

1.

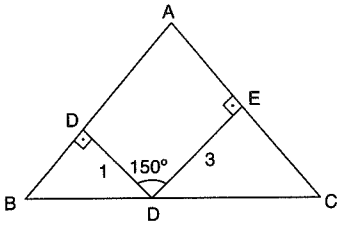


$|AB| = |AC|$

$\Rightarrow |AC| = ?$

20

2.

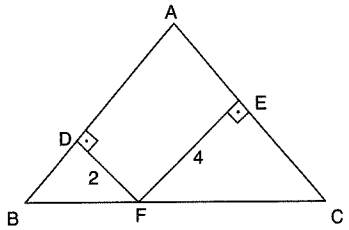


$|AB| = |AC|$

$\Rightarrow |AC| = ?$

8

3.

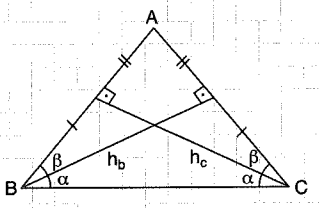


$|AB| = |AC| = 10$

$\Rightarrow |BC| = ?$

$2\sqrt{10}$

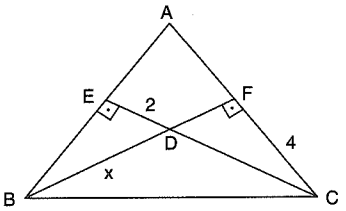
ÖZELLİK|Property 4



$|AB| = |AC|$

$h_b = h_c$

1.

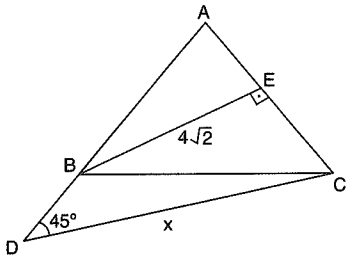


$|AB| = |AC|$

$\Rightarrow x = ?$

$2\sqrt{5}$

2.

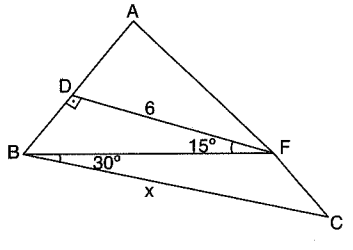


$|AB| = |AC|$

$\Rightarrow x = ?$

8

3.



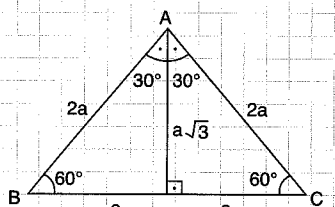
$|AB| = |AF|$

$\Rightarrow x = ?$

$6\sqrt{2}$

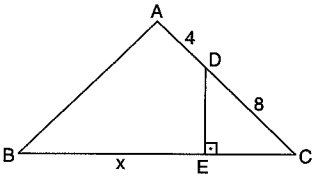
PUZA YAYINLARI

ÖZELLİK/Property 5



ABC eşkenar üçgen
ABC equilateral triangle
$|AB| = |AC| = |BC|$

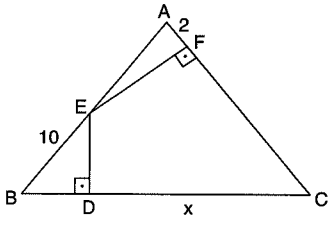
1.



ABC eşkenar üçgen
ABC equilateral triangle
⇒ x = ?

8

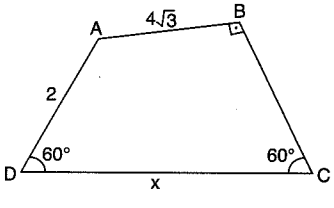
2.



ABC eşkenar üçgen
ABC equilateral triangle
⇒ x = ?

9

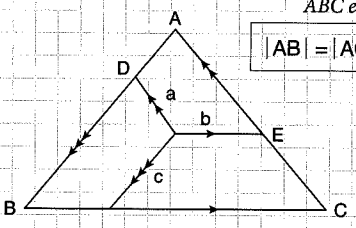
3.



⇒ x = ?

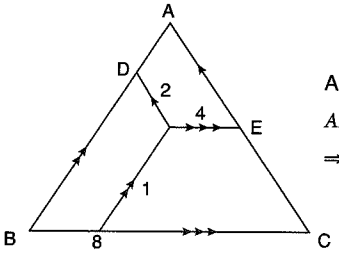
10

ÖZELLİK/Property 6



ABC eşkenar üçgen
ABC equilateral triangle
$|AB| = |AC| = |BC| = a+b+c$

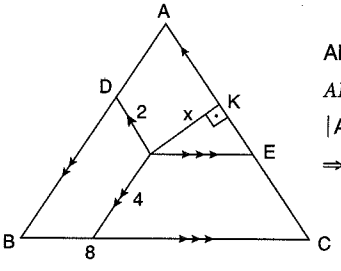
1.



ABC eşkenar üçgen
ABC equilateral triangle
⇒ Ç(ABC) = ?

21

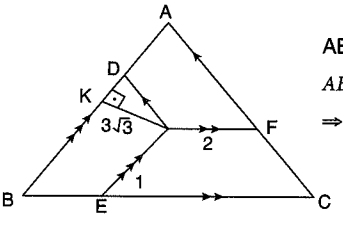
2.



ABC eşkenar üçgen
ABC equilateral triangle
|AB| = 10
⇒ x = ?

$2\sqrt{3}$

3.

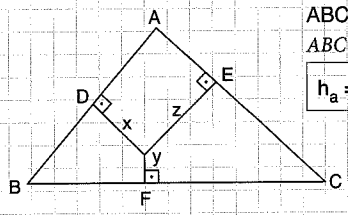


ABC eşkenar üçgen
ABC equilateral triangle
⇒ Ç(ABC) = ?

27

PUZA YAYINLARI

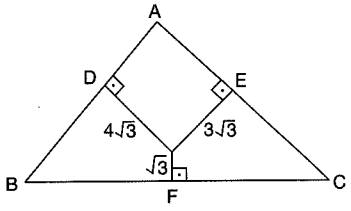
ÖZELLİK | Property 7



ABC eşkenar üçgen
ABC equilateral triangle

$h_a = h_b = h_c = x + y + z$

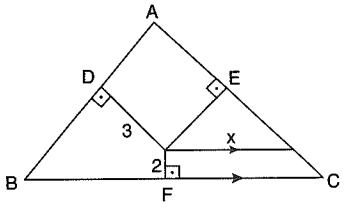
1.



ABC eşkenar üçgen
ABC equilateral triangle
$\Rightarrow |AC| = ?$

16

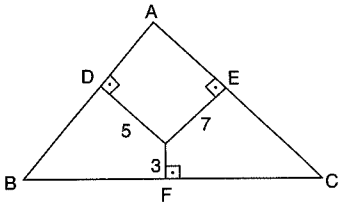
2.



ABC eşkenar üçgen
ABC equilateral triangle
$h_a = 8$ br
$\Rightarrow x = ?$

$2\sqrt{3}$

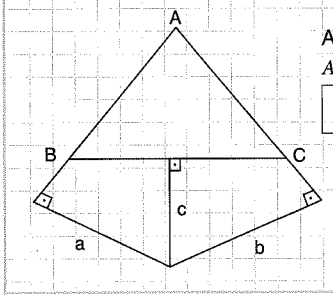
3.



ABC eşkenar üçgen
ABC equilateral triangle
$\Rightarrow A(ABC) = ?$

$75\sqrt{3}$

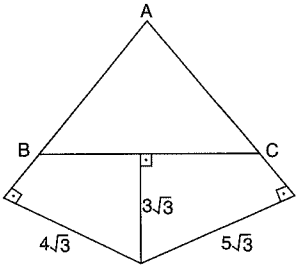
ÖZELLİK | Property 8



ABC eşkenar üçgen
ABC equilateral triangle

$h_a = h_b = h_c = a + b - c$

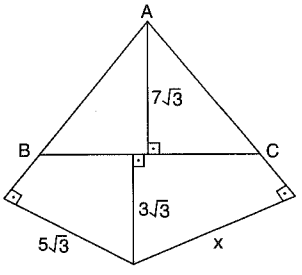
1.



ABC eşkenar üçgen
ABC equilateral triangle
$\Rightarrow |AC| = ?$

12

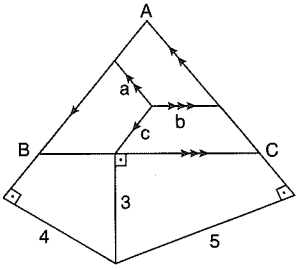
2.



ABC eşkenar üçgen
ABC equilateral triangle
$\Rightarrow x = ?$

$5\sqrt{3}$

3.

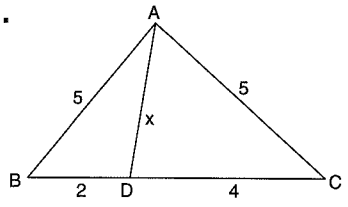


ABC eşkenar üçgen
ABC equilateral triangle
$\Rightarrow a + b + c = ?$

$4\sqrt{3}$

PUZA YAYINLARI

1.



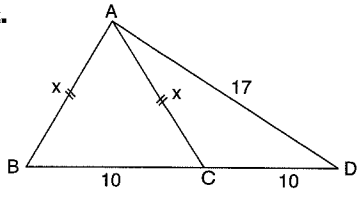
$|AB| = |AC| = 5$ br

$2|BD| = |DC| = 4$ br

$\Rightarrow |AD| = x = ?$

A) 5 B) $\sqrt{17}$ C) 4 D) $\sqrt{15}$ E) $\sqrt{10}$

2.



$|AB| = |AC|$

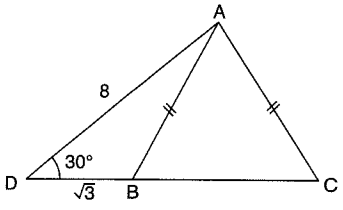
$|BC| = |CD| = 10$ br

$|AD| = 17$ br

$\Rightarrow |AB| = x = ?$

A) 12 B) 10 C) $\sqrt{89}$ D) $6\sqrt{2}$ E) $3\sqrt{6}$

3.



$|AB| = |AC|$

$|AD| = 8$ br

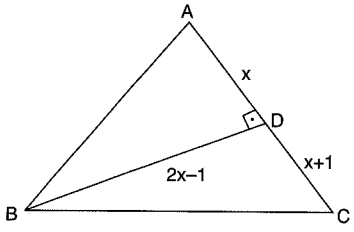
$|DB| = \sqrt{3}$ br

$m(\widehat{ADC}) = 30°$

$\Rightarrow |DC| = ?$

A) $\sqrt{3}$ B) 4 C) $4\sqrt{3}$ D) 8 E) $7\sqrt{3}$

4.



$[BD] \perp [AC]$

$|AB| = |AC|$

$|AD| = x$

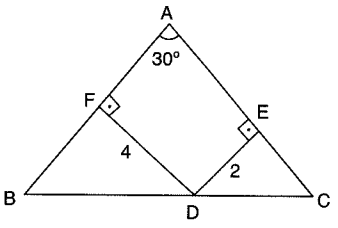
$|DC| = x + 1$

$|BD| = 2x - 1$

$\Rightarrow x = ?$

A) 3 B) 4 C) 6 D) 7 E) 8

5.



$|AB| = |AC|$

$[DF] \perp [AB]$

$[DE] \perp [AC]$

$m(\widehat{BAC}) = 30°$

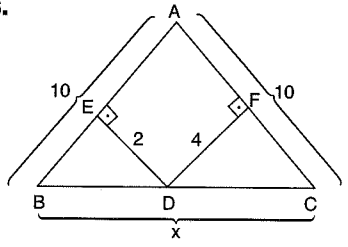
$|FD| = 4$ br

$|DE| = 2$ br

$\Rightarrow |AB| = x = ?$

A) 12 B) $6\sqrt{3}$ C) 6 D) 4 E) 3

6.



$|AB| = |AC| = 10$ br

$[DE] \perp [AB]$

$[DF] \perp [AC]$

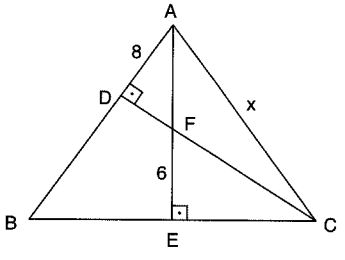
$|ED| = 2$ br

$|DF| = 4$ br

$\Rightarrow |BC| = x = ?$

A) $2\sqrt{10}$ B) 6 C) $6\sqrt{2}$ D) 8 E) 10

7.



$|AB| = |BC|$

$|AD| = 8$ br

$|EF| = 6$ br

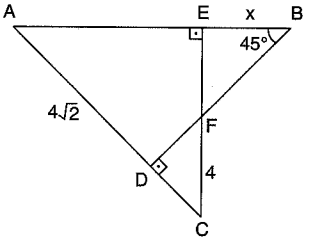
$[CD] \perp [AB]$

$[AE] \perp [BC]$

$\Rightarrow |AC| = x = ?$

A) $16\sqrt{5}$ B) $8\sqrt{5}$ C) 10 D) 8 E) 6

8.



$[CE] \perp [AB]$

$[BD] \perp [AC]$

$m(\widehat{ABD}) = 45°$

$|AD| = 4\sqrt{2}$ br

$|FC| = 4$ br

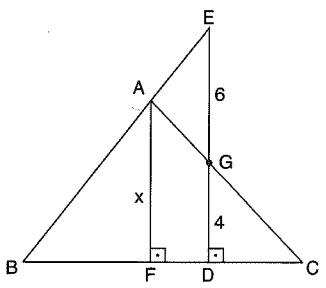
$\Rightarrow |EB| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 6

PUZA YAYINLARI

www.ztcprep.com

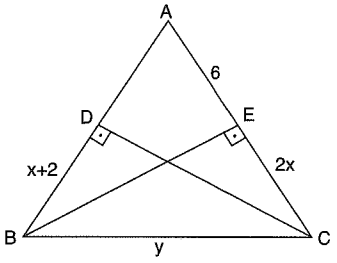
9.



$|AB| = |AC|$
$[AF] \perp [BC]$
$[ED] \perp [BC]$
$|EG| = 6$ br
$|GD| = 4$ br
$\Rightarrow |AF| = x = ?$

A) 4 B) 6 C) 7 D) 8 E) 10

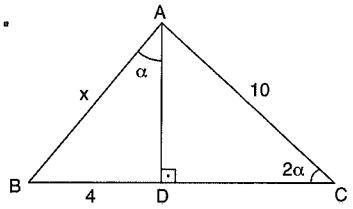
10.



$|AB| = |AC|$
$[CD] \perp [AB]$
$[BE] \perp [AC]$
$|AE| = 6$ br
$|EC| = 2x$
$|BD| = x + 2$
$\Rightarrow |BC| = y = ?$

A) $2\sqrt{5}$ B) $4\sqrt{3}$ C) $4\sqrt{5}$ D) $8\sqrt{3}$ E) $8\sqrt{5}$

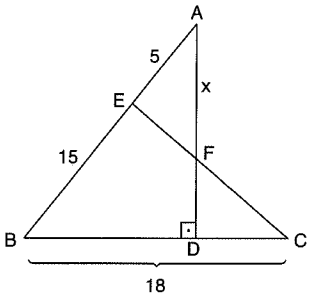
11.



$[AD] \perp [BC]$
$2m(\widehat{BAD}) = m(\widehat{ACB})$
$|AC| = 10$ br
$|BD| = 4$ br
$\Rightarrow |AB| = x = ?$

A) 20 B) $10\sqrt{2}$ C) 10 D) $8\sqrt{5}$ E) $4\sqrt{5}$

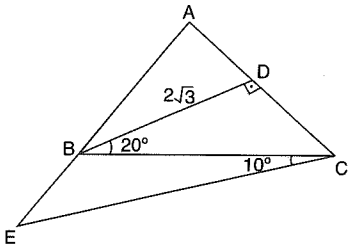
12.



$[AD] \perp [BC]$
$|EB| = |EC|$
$|AE| = 5$ br
$|EB| = 15$ br
$|BC| = 18$ br
$\Rightarrow |AF| = x = ?$

A) 3 B) 4 C) 6 D) 8 E) 10

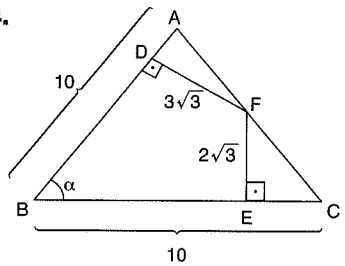
13.



$[BD] \perp [AC]$
$|AB| = |AC|$
$m(\widehat{DBC}) = 20°$
$m(\widehat{BCE}) = 10°$
$\Rightarrow |EC| = ?$

A) 2 B) $\sqrt{6}$ C) $2\sqrt{3}$ D) 4 E) $4\sqrt{3}$

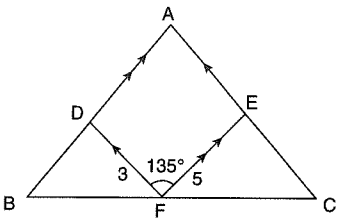
14.



$[DF] \perp [AB]$
$[EF] \perp [BC]$
$|AB| = |BC| = 10$ br
$|DF| = 3\sqrt{3}$ br
$|FE| = 2\sqrt{3}$ br
$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 15 B) 30 C) 45 D) 60 E) 90

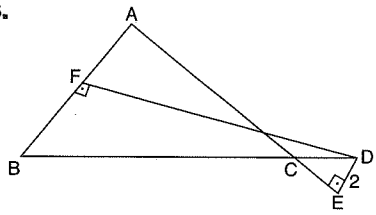
15.



$|AB| = |AC|$
$[DF] // [AC]$
$[FE] // [AB]$
$|DF| = 3$ br
$|FE| = 5$ br
$m(\widehat{DFE}) = 135°$
$\Rightarrow A(ABC) = ?$

A) $32\sqrt{2}$ B) 32 C) $16\sqrt{2}$ D) 16 E) $8\sqrt{2}$

16.

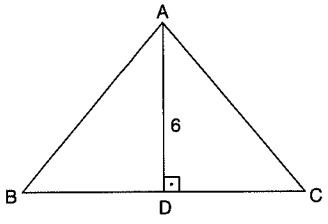


$[DF] \perp [AB]$
$[AE] \perp [DE]$
$|AB| = 8$ br
$|AC| = 8$ br
$|FD| = 6$ br
$|ED| = 2$ br
$\Rightarrow A(ABC) = ?$

A) 24 B) 16 C) 12 D) 8 E) 4

PUZA YAYINLARI

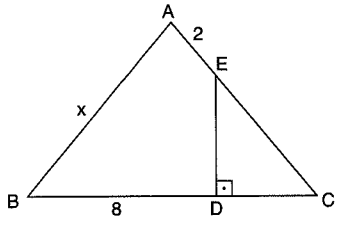
1.



ABC eşkenar üçgen
ABC equilateral triangle
[AD] ⊥ [BC]
|AD| = 6 br
⇒ |BC| = ?

A) $12\sqrt{3}$ B) 12 C) $4\sqrt{3}$ D) 4 E) $2\sqrt{3}$

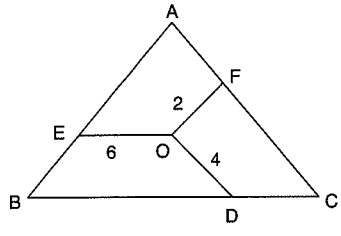
2.



ABC eşkenar üçgen
ABC equilateral triangle
[ED] ⊥ [BC]
|AE| = 2 br
|BD| = 8 br
⇒ |AB| = x = ?

A) 14 B) 12 C) 10 D) 8 E) 6

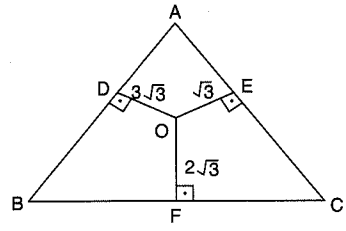
3.



ABC eşkenar üçgen
ABC equilateral triangle
[EO] // [BC]
[FO] // [AB]
[OD] // [AC]
|OF| = 2 br
|OD| = 4 br
|EO| = 6 br
⇒ Ç(ABC) = ?

A) $\sqrt{37}$ B) 12 C) 7
D) $2\sqrt{37}$ E) 36

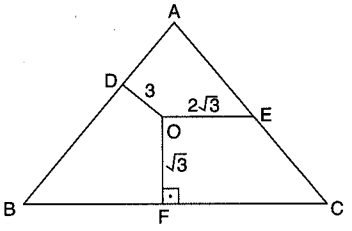
4.



ABC eşkenar üçgen
ABC equilateral triangle
[OE] ⊥ [AC]
[OF] ⊥ [BC]
[OD] ⊥ [AB]
|OD| = $3\sqrt{3}$ br
|OE| = $\sqrt{3}$ br
|OF| = $2\sqrt{3}$ br
⇒ A(ABC) = ?

A) $72\sqrt{3}$ B) 72 C) $36\sqrt{3}$
D) 36 E) $18\sqrt{3}$

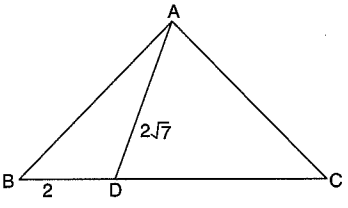
5.



ABC eşkenar üçgen
ABC equilateral triangle
[OE] // [BC]
[OD] // [AC]
[OF] ⊥ [BC]
|OD| = 3 br
|OE| = $2\sqrt{3}$ br
|OF| = $\sqrt{3}$ br
⇒ Ç(ABC) = ?

A) $5+2\sqrt{3}$ B) $15+6\sqrt{3}$ C) 14
D) $10+4\sqrt{3}$ E) 36

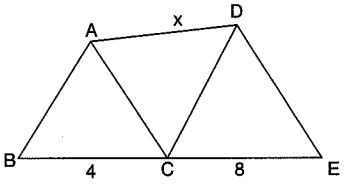
6.



ABC eşkenar üçgen
ABC equilateral triangle
|AD| = $2\sqrt{7}$ br
|BD| = 2 br
⇒ Ç(ABC) = ?

A) 4 B) 6 C) 12 D) 18 E) 36

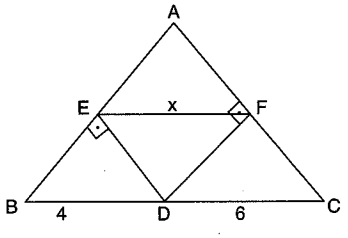
7.



ABC, CDE eşkenar üçgen
ABC, CDE equilateral triangle
|BC| = 4 br
|CE| = 8 br
⇒ |AD| = x = ?

A) 4 B) 6 C) $4\sqrt{3}$ D) 8 E) $8\sqrt{3}$

8.

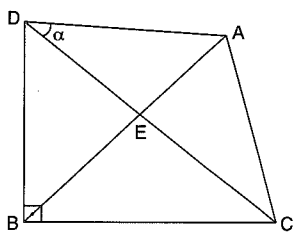


ABC eşkenar üçgen
ABC equilateral triangle
[DE] ⊥ [AB]
[DF] ⊥ [AC]
|BD| = 4 br
|DC| = 6 br
⇒ |EF| = x = ?

A) $4\sqrt{3}$ B) $\sqrt{47}$ C) 7 D) $\sqrt{57}$ E) 8

PUZA YAYINLARI

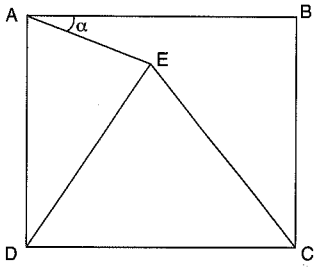
9.



ABC eşkenar üçgen
ABC equilateral triangle
DBC dik üçgen
$|DB| = |BC|$
$[DB] \perp [BC]$
$\Rightarrow m(\widehat{ADC}) = \alpha = ?$

A) 15 B) 30 C) 32,5 D) 45 E) 67,5

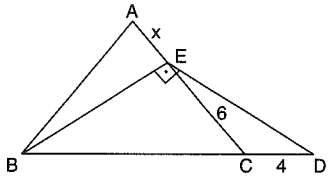
10.



ABCD kare
ABCD square
EDC eşkenar üçgen
EDC equilateral triangle
$\Rightarrow m(\widehat{BAE}) = \alpha = ?$

A) 15 B) 30 C) 32,5 D) 45 E) 67,5

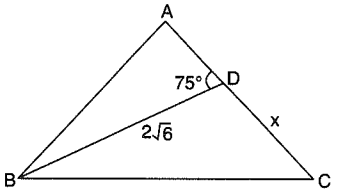
11.



ABC eşkenar üçgen
ABC equilateral triangle
$[BE] \perp [ED]$
$|EC| = 6$ br
$|CD| = 4$ br
$\Rightarrow |AE| = x = ?$

A) 6 B) 4 C) 3 D) $\frac{6}{5}$ E) $\frac{6}{7}$

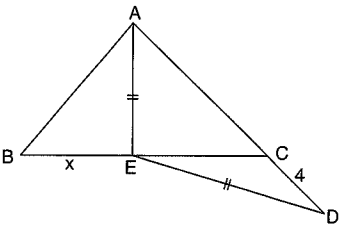
12.



ABC eşkenar üçgen
ABC equilateral triangle
$|BD| = 2\sqrt{6}$ br
$m(\widehat{ADB}) = 75°$
$\Rightarrow |DC| = x = ?$

A) $\sqrt{3}-1$ B) $\sqrt{3}$ C) $2\sqrt{3}-2$
D) $2\sqrt{3}$ E) $2\sqrt{3}+2$

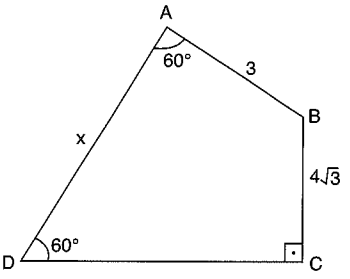
13.



ABC eşkenar üçgen
ABC equilateral triangle
$|AE| = |ED|$
$|CD| = 4$ br
$\Rightarrow |BE| = x = ?$

A) 2 B) $2\sqrt{3}$ C) 4 D) $4\sqrt{3}$ E) $4\sqrt{6}$

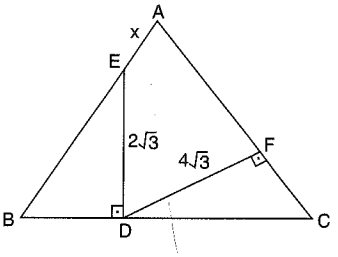
14.



$m(\widehat{BAD}) = 60°$
$m(\widehat{ADC}) = 60°$
$[BC] \perp [DC]$
$|AB| = 3$ br
$|BC| = 4\sqrt{3}$ br
$\Rightarrow |AD| = x = ?$

A) 3 B) 4 C) 7 D) 11 E) 14

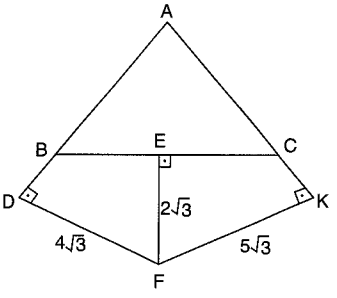
15.



ABC eşkenar üçgen
ABC equilateral triangle
$[ED] \perp [BC]$
$[DF] \perp [AC]$
$|ED| = 2\sqrt{3}$ br
$|DF| = 4\sqrt{3}$ br
$\Rightarrow |EA| = x = ?$

A) 2 B) 3 C) 4 D) 5 E) 6

16.

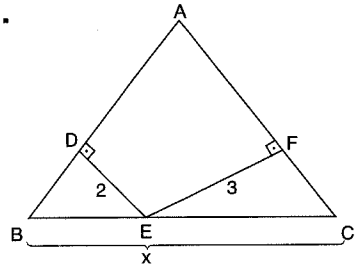


ABC eşkenar üçgen
ABC equilateral triangle
$[FD] \perp [AB]$
$[FE] \perp [BC]$
$[FK] \perp [KA]$
$|EF| = 2\sqrt{3}$ br
$|FK| = 5\sqrt{3}$ br
$|DF| = 4\sqrt{3}$ br
$\Rightarrow Ç(ABC) = ?$

A) 11 B) $11\sqrt{3}$ C) 22 D) 33 E) 42

PUZA YAYINLARI

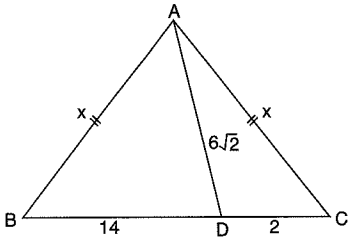
1.



$[DE] \perp [AB]$
$[EF] \perp [AC]$
$|AB| = |AC| = 13$ br
$|DE| = 2$ br
$|EF| = 3$ br
$\Rightarrow |BC| = x = ?$

A) $\sqrt{13}$ B) $2\sqrt{6}$ C) 5 D) $\sqrt{20}$ E) $\sqrt{26}$

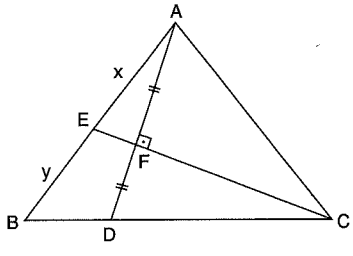
2.



$|AB| = |AC|$
$|AD| = 6\sqrt{2}$ br
$|BD| = 14$ br
$|DC| = 2$ br
$\Rightarrow |AB| = x = ?$

A) 16 B) 12 C) 10 D) 8 E) 6

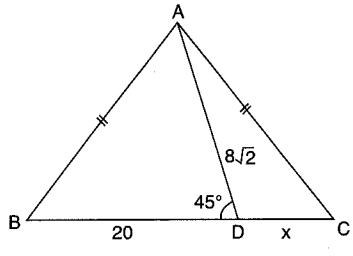
3.



$[CE] \perp [AD]$
$|AF| = |FD|$
$|AC| = 2|BD|$
$|AE| = x$
$|BE| = y$
$\Rightarrow \frac{x}{y} = ?$

A) $\frac{1}{3}$ B) $\frac{2}{3}$ C) 1 D) $\frac{3}{2}$ E) 3

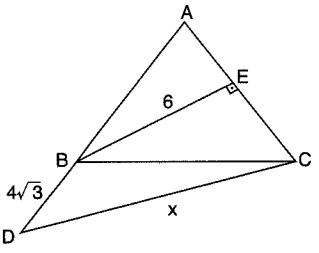
4.



$|AB| = |AC|$
$|AD| = 8\sqrt{2}$ br
$|BD| = 20$ br
$m(\widehat{ADB}) = 45°$
$\Rightarrow |DC| = x = ?$

A) 4 B) 6 C) 10 D) 12 E) 20

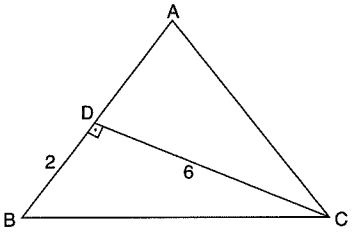
5.



ABC eşkenar üçgen
ABC equilateral triangle
$[BE] \perp [AC]$
$|BD| = 4\sqrt{3}$ br
$|BE| = 6$ br
$\Rightarrow |DC| = x = ?$

A) 14 B) 20 C) 15 D) 12 E) 10

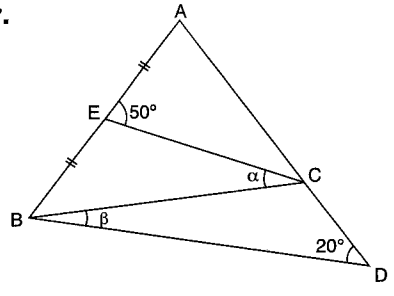
6.



$|AB| = |AC|$
$[CD] \perp [AB]$
$|BD| = 2$ br
$|DC| = 6$ br
$\Rightarrow |AC| = ?$

A) $15\sqrt{2}$ B) 15 C) $10\sqrt{2}$ D) 10 E) $8\sqrt{2}$

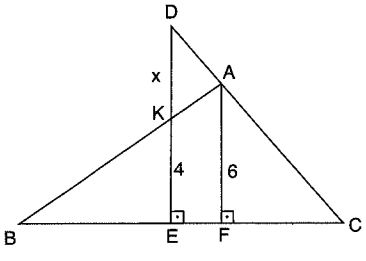
7.



$|AB| = |AC|$
$|AE| = |EB|$
$m(\widehat{AEC}) = 50°$
$m(\widehat{ADB}) = 20°$
$m(\widehat{CBD}) = \beta$
$m(\widehat{ECB}) = \alpha$
$\Rightarrow \alpha + \beta = ?$

A) 10 B) 20 C) 30 D) 50 E) 70

8.

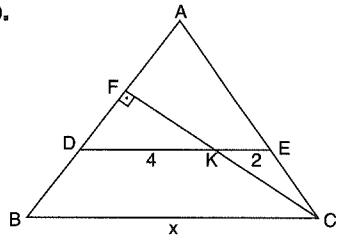


$|AB| = |AC|$
$[AF] \perp [BC]$
$[DE] \perp [BC]$
$|AF| = 6$ br
$|KE| = 4$ br
$\Rightarrow |DK| = x = ?$

A) 2 B) 4 C) 6 D) 8 E) 12

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

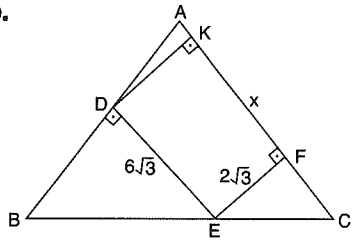
9.



ABC eşkenar üçgen
ABC equilateral triangle
[DE] // [BC]
[CF] ⊥ [AB]
2|KE| = |DK| = 4 br
⇒ |BC| = x = ?

A) 12 B) 10 C) 8 D) 6 E) 4

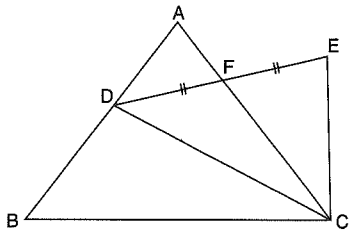
10.



ABC eşkenar üçgen
ABC equilateral triangle
[ED] ⊥ [AB]
[EF] ⊥ [AC]
[DK] ⊥ [AC]
|DE| = 6√3 br
|EF| = 2√3 br
⇒ |KF| = x = ?

A) 5 B) 6 C) 7 D) 8 E) 9

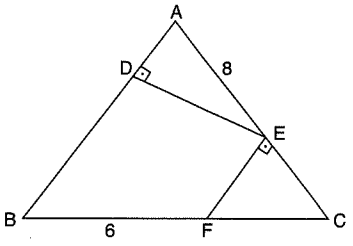
11.



ABC, DEC eşkenar üçgen
ABC, DEC equilateral triangle
|DF| = |FE|
$\Rightarrow \frac{A(ABC)}{A(DEC)} = ?$

A) $\frac{2}{3}$ B) $\frac{3}{4}$ C) $\frac{4}{3}$ D) $\frac{3}{2}$ E) 1

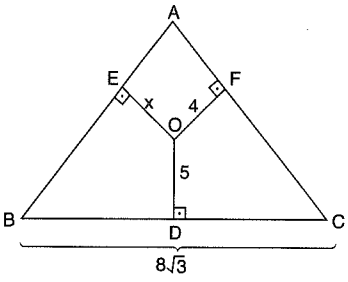
12.



ABC eşkenar üçgen
ABC equilateral triangle
[FE] ⊥ [AC]
[ED] ⊥ [AB]
|AE| = 8 br
|BF| = 6 br
⇒ Ç(DEFB) = ?

A) $6+7\sqrt{3}$ B) $6(1+2\sqrt{3})$ C) $6(2+\sqrt{3})$
D) $12(1+\sqrt{3})$ E) $36\sqrt{3}$

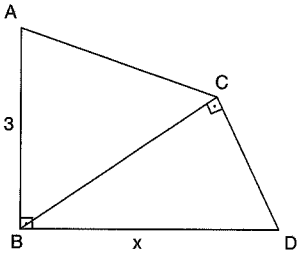
13.



ABC eşkenar üçgen
ABC equilateral triangle
[OE] ⊥ [AB]
[OF] ⊥ [AC]
[OD] ⊥ [BC]
|OF| = 4 br
|OD| = 5 br
|BC| = 8√3 br
⇒ |OE| = x = ?

A) 1 B) 2 C) 3 D) 4 E) 5

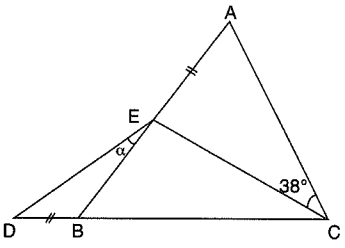
14.



ABC eşkenar üçgen
ABC equilateral triangle
[AB] ⊥ [BD]
[BC] ⊥ [CD]
|AB| = 3 br
⇒ |BD| = x = ?

A) 2 B) $2\sqrt{3}$ C) 4 D) $4\sqrt{3}$ E) 8

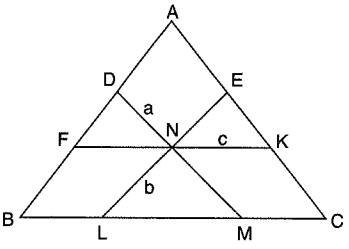
15.



ABC eşkenar üçgen
ABC equilateral triangle
|AE| = |DB|
$m(\widehat{ACE}) = 38°$
$\Rightarrow m(\widehat{DEB}) = \alpha = ?$

A) 19 B) 22 C) 38 D) 54 E) 56

16.

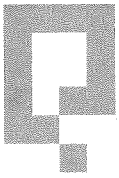


ABC eşkenar üçgen
ABC equilateral triangle
Ç(ABC) = 36 br
[EL] // [AB]
[FK] // [BC]
[DM] // [AC]
|DN| = a
|LN| = b
|KN| = c
⇒ a + b + c = ?

A) 6 B) $6\sqrt{3}$ C) 12 D) 18 E) 36

PUZA YAYINLARI

ZTC زنگنه مجموعه موسسات



İKİZKENAR-EŞKENAR ÜÇGEN
ISOSCELES-EQUILATERAL TRIANGLE
Yanıt Anahtarı
Answer Key

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	C	E	E	A	A	B	B	C	C	E	D	D	D	C	B

TEST 2

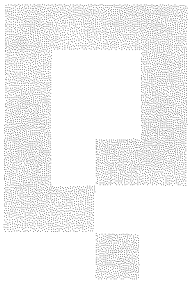
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	A	E	C	B	D	C	D	B	A	E	C	C	D	E	E

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	C	B	A	D	D	C	B	C	E	C	C	C	B	C	C

www.ztcprep.com

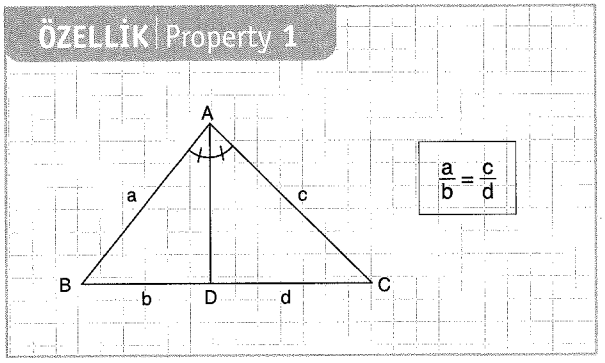
زنگنه ZTC
مجموعه موسسات



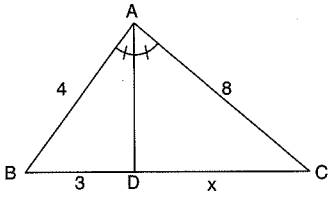
AÇIORTAY
BISECTOR

www.ztcprep.com

ÖZELLİK | Property 1



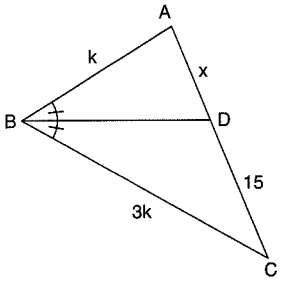
1.



⇒ x = ?

6

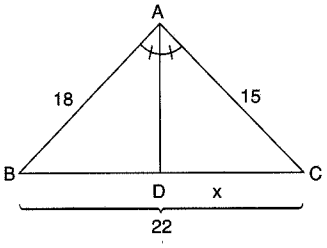
2.



⇒ x = ?

5

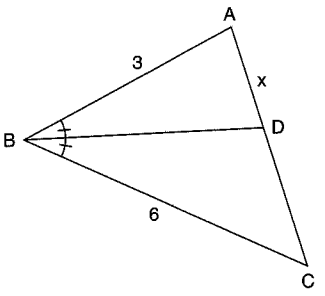
3.



⇒ x = ?

10

4.

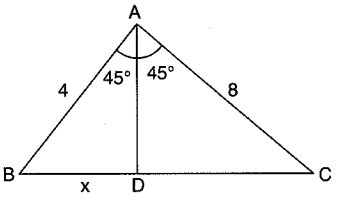


Ç(ABC) = 15

⇒ x = ?

2

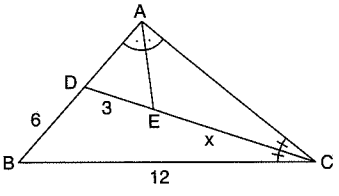
5.



⇒ x = ?

$\frac{4\sqrt{5}}{3}$

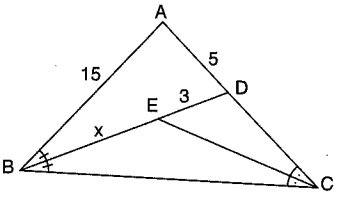
6.



⇒ x = ?

6

7.

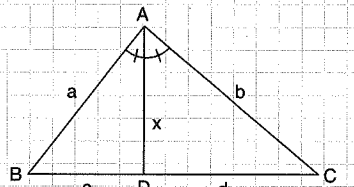


⇒ x = ?

9

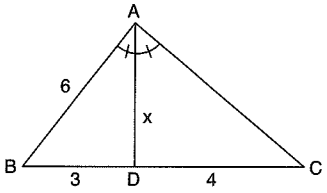
PUZA YAYINLARI

ÖZELLİK | Property 2



$x^2 = a \cdot b - c \cdot d$

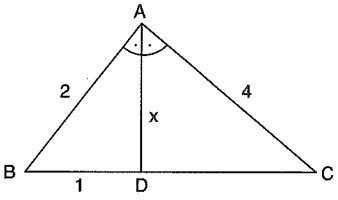
1.



$\Rightarrow x = ?$

6

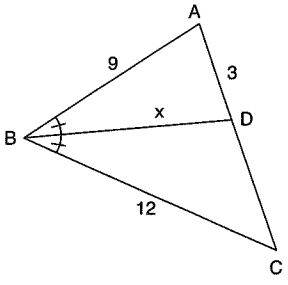
2.



$\Rightarrow x = ?$

$\sqrt{6}$

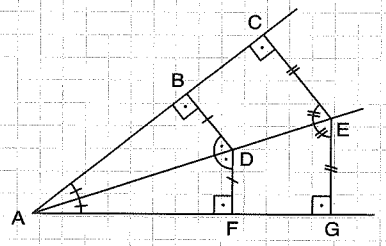
3.



$\Rightarrow x = ?$

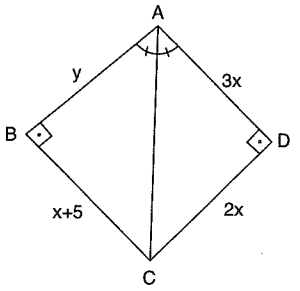
$4\sqrt{6}$

ÖZELLİK | Property 3



$|AB| = |AF|$
$|AC| = |AG|$

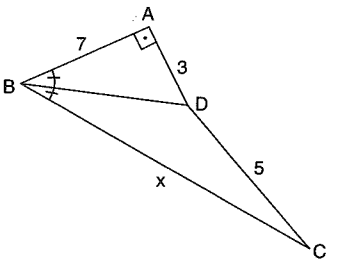
1.



$\Rightarrow y = ?$

15

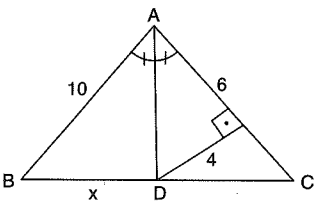
2.



$\Rightarrow x = ?$

11

3.

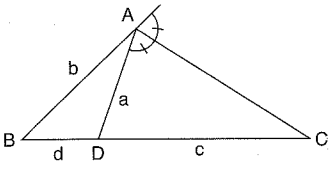


$\Rightarrow x = ?$

$4\sqrt{2}$

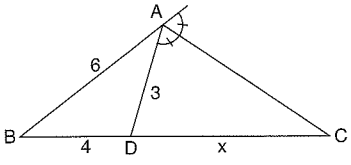
PUZA YAYINLARI

ÖZELLİK | Property 4



$$\frac{a}{b} = \frac{c}{c+d}$$

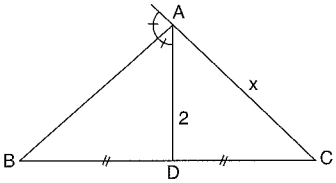
1.



$\Rightarrow x = ?$

4

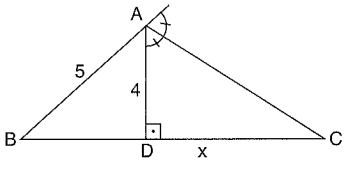
2.



$\Rightarrow x = ?$

4

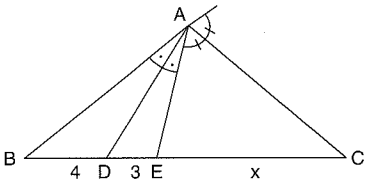
3.



$\Rightarrow x = ?$

12

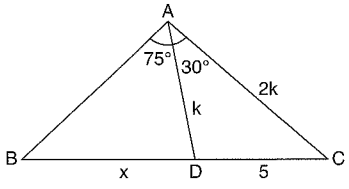
4.



$\Rightarrow x = ?$

21

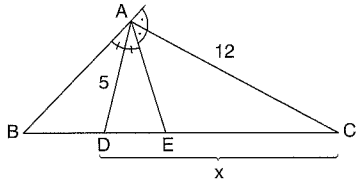
5.



$\Rightarrow x = ?$

$\frac{5}{2}$

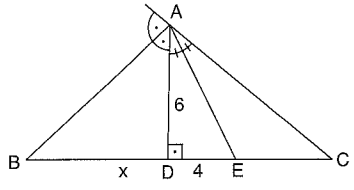
6.



$\Rightarrow x = ?$

13

7.

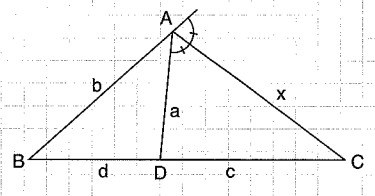


$\Rightarrow x = ?$

9

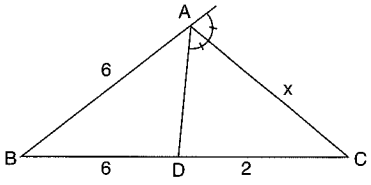
PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

ÖZELLİK | Property 5



$$x^2 = c \cdot (c + d) - a \cdot b$$

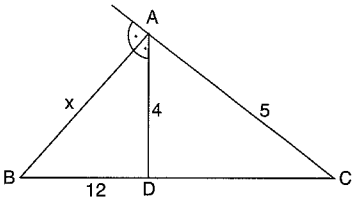
1.



⇒ x = ?

√7

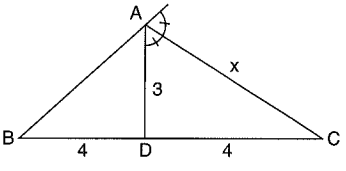
2.



⇒ x = ?

4√10

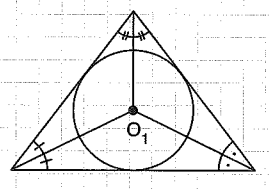
3.



⇒ x = ?

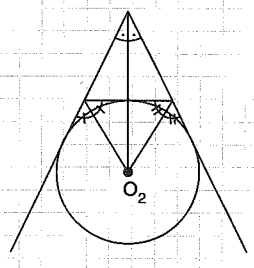
√14

ÖZELLİK | Property 6



İç açıortayların kesim noktası, iç teğet çemberinin merkezi, O_1 dir.

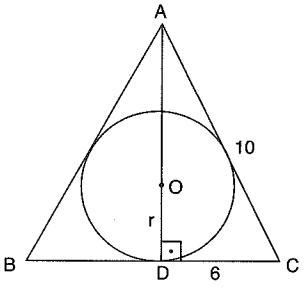
The intersection point of the interior angle bisectors is the center O_1 of the incircle.



Dış açıortayların kesim noktası, dış teğet çemberinin merkezi, O_2 dir.

The intersection point of the exterior angle bisectors is the center O_2 of the excircle.

1.



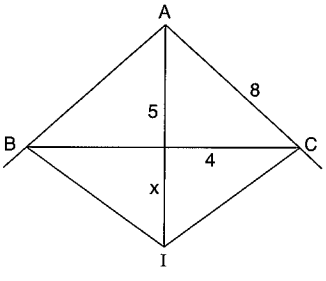
O, iç teget çemberin merkezi

The central point of the incircle

⇒ r = ?

3

2.



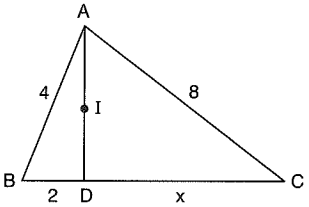
I dış teget çemberin merkezi

Central point of the excircle

⇒ x = ?

5

3.



I iç teget çemberin merkezi

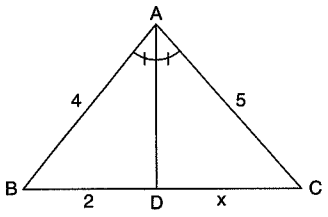
The central point of the incircle

⇒ x = ?

4

PUZA YAYINLARI

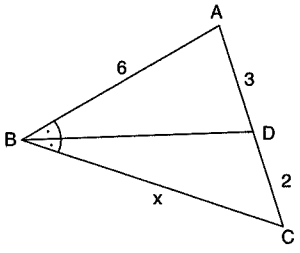
1.



$m(\widehat{BAD}) = m(\widehat{DAC})$
$|AB| = 4$ br
$|AC| = 5$ br
$|BD| = 2$ br
$\Rightarrow |DC| = x = ?$

A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3

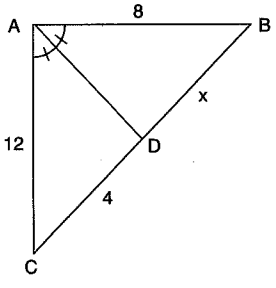
2.



$m(\widehat{ABD}) = m(\widehat{DBC})$
$|AB| = 6$ br
$|AD| = 3$ br
$|DC| = 2$ br
$\Rightarrow |BC| = x = ?$

A) 4 B) 3 C) $\frac{3}{2}$ D) 2 E) 1

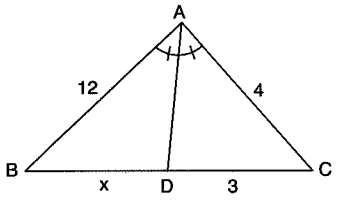
3.



$m(\widehat{CAD}) = m(\widehat{DAB})$
$|AB| = 8$ br
$|AC| = 12$ br
$|DC| = 4$ br
$\Rightarrow |DB| = x = ?$

A) 1 B) 2 C) $\frac{8}{3}$ D) 3 E) $\frac{10}{3}$

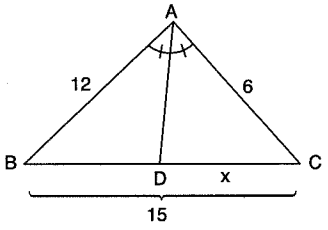
4.



$m(\widehat{BAD}) = m(\widehat{DAC})$
$|AB| = 12$ br
$|AC| = 4$ br
$|DC| = 3$ br
$\Rightarrow |BD| = x = ?$

A) 6 B) 7 C) 8 D) 9 E) 10

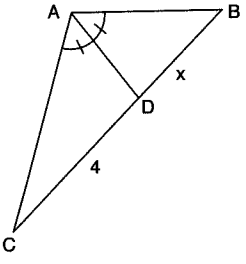
5.



$m(\widehat{BAD}) = m(\widehat{DAC})$
$|AB| = 12$ br
$|AC| = 6$ br
$|BC| = 15$ br
$\Rightarrow |DC| = x = ?$

A) 5 B) 6 C) 8 D) 9 E) 10

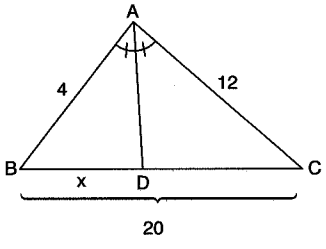
6.



$|AB| = 3|AC|$
$m(\widehat{CAD}) = m(\widehat{DAB})$
$|CD| = 4$ br
$\Rightarrow |BD| = x = ?$

A) $\frac{4}{3}$ B) 4 C) 6 D) 8 E) 12

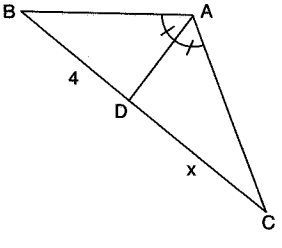
7.



$m(\widehat{BAD}) = m(\widehat{DAC})$
$|AB| = 4$ br
$|AC| = 12$ br
$|BC| = 20$ br
$\Rightarrow |BD| = x = ?$

A) 5 B) 6 C) 7 D) 8 E) 10

8.



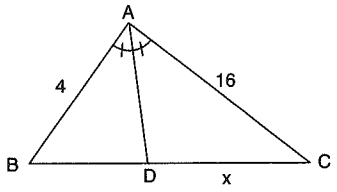
$2|AC| = 3|AB|$
$m(\widehat{BAD}) = m(\widehat{DAC})$
$|BD| = 4$ br
$\Rightarrow |DC| = x = ?$

A) $\frac{8}{3}$ B) 5 C) 6 D) 8 E) 10

PUZA YAYINLARI

www.ztcprep.com

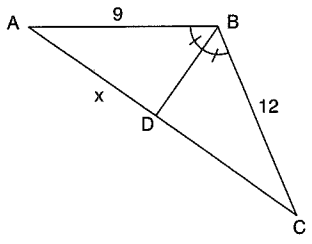
9.



Ç(ABC) = 35
$m(\widehat{BAD}) = m(\widehat{DAC})$
|AB| = 4 br
|AC| = 16 br
⇒ |DC| = x = ?

A) 3 B) 6 C) 9 D) 12 E) 15

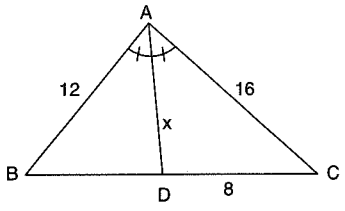
10.



Ç(ABC) = 35
$m(\widehat{ABD}) = m(\widehat{DBC})$
|AB| = 9 br
|BC| = 12 br
⇒ |AD| = x = ?

A) 3 B) 4 C) 6 D) 7 E) 8

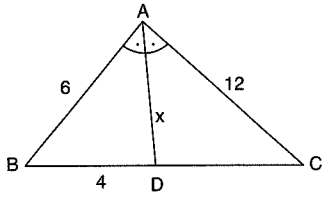
11.



$m(\widehat{BAD}) = m(\widehat{DAC})$
|AB| = 12 br
|AC| = 16 br
|DC| = 8 br
⇒ |AD| = x = ?

A) 6 B) $6\sqrt{5}$ C) 12 D) $12\sqrt{5}$ E) 16

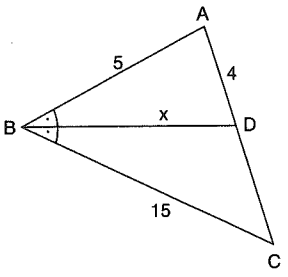
12.



$m(\widehat{BAD}) = m(\widehat{DAC})$
|AB| = 6 br
|AC| = 12 br
|BD| = 4 br
⇒ |AD| = x = ?

A) $2\sqrt{10}$ B) $4\sqrt{3}$ C) $2\sqrt{15}$ D) 8 E) 16

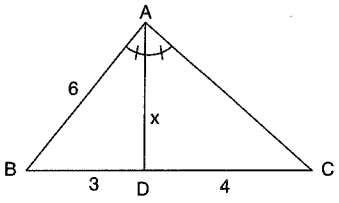
13.



$m(\widehat{ABD}) = m(\widehat{DBC})$
|AD| = 4 br
|AB| = 5 br
|BC| = 15 br
⇒ |BD| = x = ?

A) $\sqrt{7}$ B) $3\sqrt{3}$ C) $5\sqrt{3}$ D) 10 E) 12

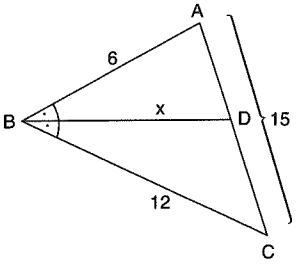
14.



$m(\widehat{BAD}) = m(\widehat{DAC})$
|AB| = 6 br
|BD| = 3 br
|DC| = 4 br
⇒ |AD| = x = ?

A) 3 B) 4 C) $2\sqrt{3}$ D) $3\sqrt{3}$ E) 6

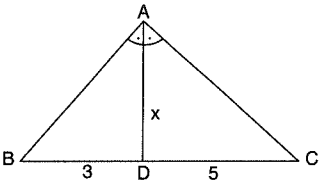
15.



$m(\widehat{ABD}) = m(\widehat{DBC})$
|AB| = 6 br
|AC| = 15 br
|BC| = 12 br
⇒ |BD| = x = ?

A) $\sqrt{10}$ B) $\sqrt{11}$ C) $3\sqrt{2}$ D) $\sqrt{22}$ E) $2\sqrt{11}$

16.

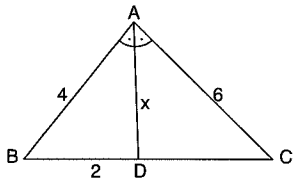


Ç(ABC) = 32
$m(\widehat{BAD}) = m(\widehat{DAC})$
|BD| = 3 br
|DC| = 5 br
⇒ |AD| = x = ?

A) $2\sqrt{5}$ B) $\sqrt{10}$ C) $\sqrt{30}$ D) $2\sqrt{30}$ E) $2\sqrt{33}$

PUZA YAYINLARI

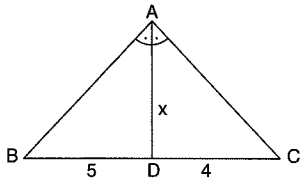
1.



$m(\widehat{BAD}) = m(\widehat{DAC})$
$|AB| = 4$ br
$|AC| = 6$ br
$|BD| = 2$ br
$\Rightarrow |AD| = x = ?$

A) 6 B) $3\sqrt{2}$ C) $2\sqrt{2}$ D) $\sqrt{3}$ E) 1

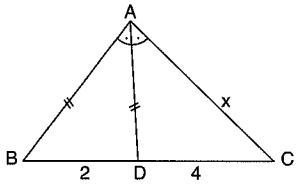
2.



Ç(ABC) = 27
$m(\widehat{BAD}) = m(\widehat{DAC})$
$|BD| = 5$ br
$|DC| = 4$ br
$\Rightarrow |AD| = x = ?$

A) 2 B) 4 C) $2\sqrt{15}$ D) $\sqrt{17}$ E) $2\sqrt{17}$

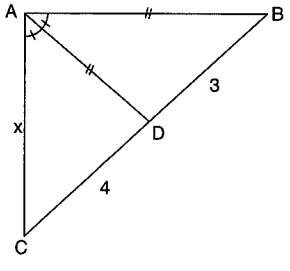
3.



$m(\widehat{BAD}) = m(\widehat{DAC})$
$|AB| = |AD|$
$|BD| = 2$ br
$|DC| = 4$ br
$\Rightarrow |AC| = x = ?$

A) 1 B) $\sqrt{2}$ C) 2 D) $2\sqrt{2}$ E) $4\sqrt{2}$

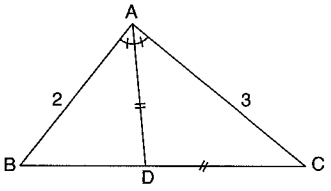
4.



$m(\widehat{CAD}) = m(\widehat{DAB})$
$|AD| = |AB|$
$|BD| = 3$ br
$|DC| = 4$ br
$\Rightarrow |AC| = x = ?$

A) 2 B) 4 C) 6 D) 8 E) 12

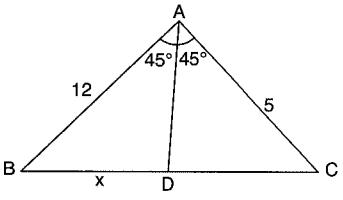
5.



$m(\widehat{BAD}) = m(\widehat{DAC})$
$|AD| = |DC|$
$|AB| = 2$ br
$|AC| = 3$ br
$\Rightarrow |BC| = ?$

A) $\sqrt{5}$ B) $\sqrt{10}$ C) $\sqrt{15}$ D) 5 E) 10

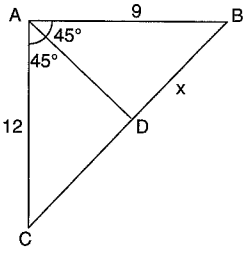
6.



$m(\widehat{BAD}) = 45°$
$m(\widehat{DAC}) = 45°$
$|AB| = 12$ br
$|AC| = 5$ br
$\Rightarrow |BD| = x = ?$

A) 13 B) $\frac{156}{17}$ C) $\frac{65}{17}$ D) 5 E) 3

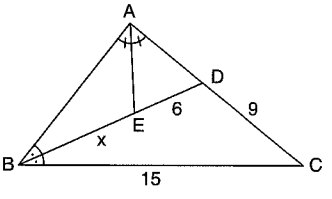
7.



$m(\widehat{CAD}) = 45°$
$m(\widehat{DAB}) = 45°$
$|AB| = 9$ br
$|AC| = 12$ br
$\Rightarrow |BD| = x = ?$

A) 6 B) $\frac{45}{7}$ C) $\frac{60}{7}$ D) 9 E) 12

8.



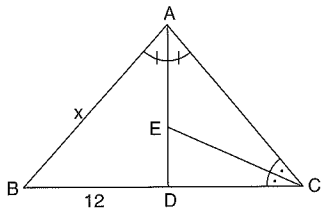
$m(\widehat{BAE}) = m(\widehat{EAD})$
$m(\widehat{ABD}) = m(\widehat{DBC})$
$|ED| = 6$ br
$|DC| = 9$ br
$|BC| = 15$ br
$\Rightarrow |BE| = x = ?$

A) 3 B) 5 C) 6 D) 8 E) 10

PUZA YAYINLARI

www.ztcprep.com

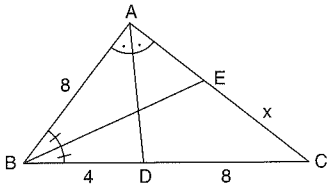
9.



$2|AE| = 3|ED|$
$m(\widehat{BAD}) = m(\widehat{DAC})$
$m(\widehat{ACE}) = m(\widehat{ECB})$
$|BD| = 12$ br
$\Rightarrow |AB| = x = ?$

A) 24 B) 18 C) 12 D) 8 E) 6

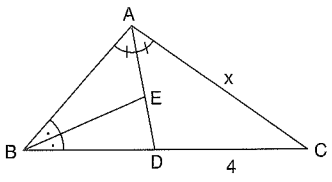
10.



$m(\widehat{BAD}) = m(\widehat{DAC})$
$m(\widehat{ABE}) = m(\widehat{EBC})$
$|AB| = 8$ br
$|BD| = 4$ br
$|DC| = 8$ br
$\Rightarrow |EC| = x = ?$

A) 4 B) $\frac{36}{5}$ C) $\frac{48}{5}$ D) 12 E) 16

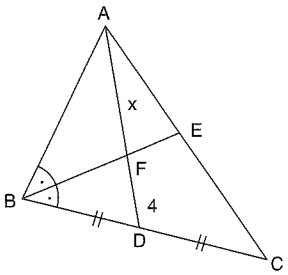
11.



$m(\widehat{BAD}) = m(\widehat{DAC})$
$m(\widehat{ABE}) = m(\widehat{EBC})$
$2|AE| = 3|ED|$
$|DC| = 4$ br
$\Rightarrow |AC| = x = ?$

A) 2 B) 4 C) 6 D) 8 E) 12

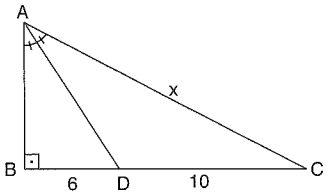
12.



$|BD| = |DC|$
$4|AE| = 5|EC|$
$m(\widehat{CBE}) = m(\widehat{EBA})$
$|FD| = 4$ br
$\Rightarrow |AF| = x = ?$

A) 4 B) 6 C) 9 D) 10 E) 12

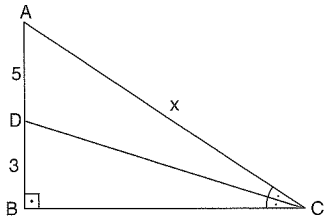
13.



$[AB] \perp [BC]$
$m(\widehat{BAD}) = m(\widehat{DAC})$
$|BD| = 6$ br
$|DC| = 10$ br
$\Rightarrow |AC| = x = ?$

A) 10 B) 15 C) 20 D) 25 E) 30

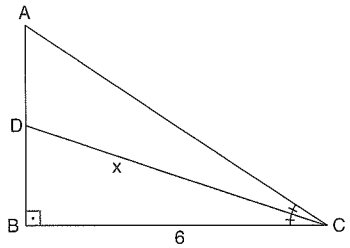
14.



$[AB] \perp [BC]$
$m(\widehat{ACD}) = m(\widehat{DCB})$
$|AD| = 5$ br
$|DB| = 3$ br
$\Rightarrow |AC| = x = ?$

A) 5 B) $5\sqrt{2}$ C) $5\sqrt{3}$ D) 10 E) 15

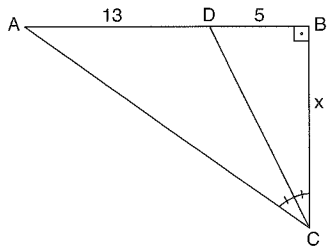
15.



$3|AD| = 5|DB|$
$m(\widehat{ACD}) = m(\widehat{DCB})$
$[BC] \perp [AB]$
$|BC| = 6$ br
$\Rightarrow |DC| = x = ?$

A) $\sqrt{5}$ B) $2\sqrt{5}$ C) $3\sqrt{5}$ D) $6\sqrt{5}$ E) $8\sqrt{5}$

16.

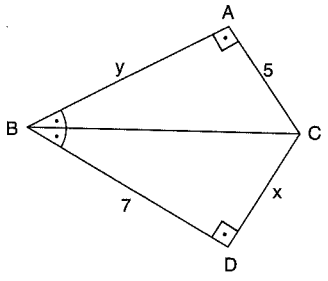


$[AB] \perp [BC]$
$m(\widehat{ACD}) = m(\widehat{DCB})$
$|AD| = 13$ br
$|DB| = 5$ br
$\Rightarrow |BC| = x = ?$

A) 5 B) $\frac{15}{2}$ C) 8 D) 10 E) $\frac{13}{2}$

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

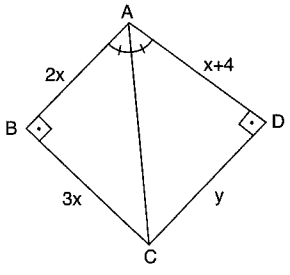
1.



$m(\widehat{ABC}) = m(\widehat{CBD})$
$[BA] \perp [AC]$
$[BD] \perp [DC]$
$|BD| = 7$ br
$|AC| = 5$ br
$|DC| = x$
$|AB| = y$
$\Rightarrow y - x = ?$

A) 1 B) 2 C) 5 D) 7 E) 12

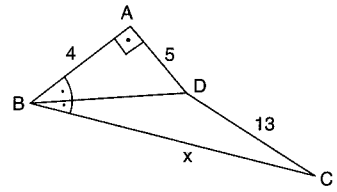
2.



$m(\widehat{BAC}) = m(\widehat{CAD})$
$[AB] \perp [BC]$
$[AD] \perp [DC]$
$|AB| = 2x$
$|AD| = x + 4$
$|BC| = 3x$
$\Rightarrow |DC| = y = ?$

A) 4 B) 8 C) 12 D) 16 E) 20

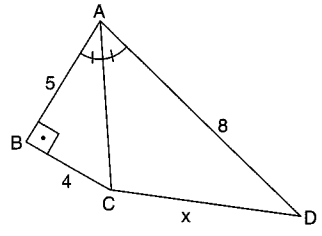
3.



$[BA] \perp [AD]$
$m(\widehat{ABD}) = m(\widehat{DBC})$
$|AB| = 4$ br
$|AD| = 5$ br
$|DC| = 13$ br
$\Rightarrow |BC| = x = ?$

A) 4 B) 5 C) 12 D) 16 E) 20

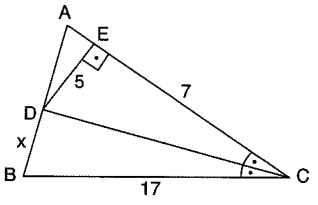
4.



$[AB] \perp [BC]$
$m(\widehat{BAC}) = m(\widehat{CAD})$
$|AB| = 5$ br
$|BC| = 4$ br
$|AD| = 8$ br
$\Rightarrow |CD| = x = ?$

A) 3 B) 4 C) 5 D) $4\sqrt{2}$ E) 8

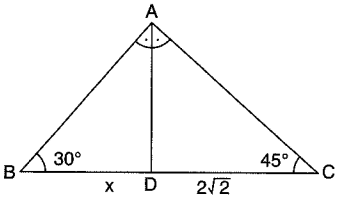
5.



$[DE] \perp [AC]$
$m(\widehat{ACD}) = m(\widehat{DCB})$
$|BC| = 17$ br
$|EC| = 7$ br
$|DE| = 5$ br
$\Rightarrow |DB| = x = ?$

A) 5 B) $5\sqrt{2}$ C) $5\sqrt{5}$ D) 10 E) 13

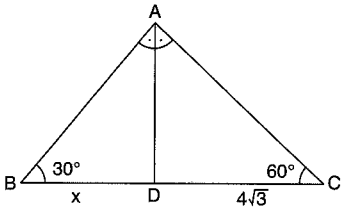
6.



$m(\widehat{BAD}) = m(\widehat{DAC})$
$m(\widehat{ABC}) = 30°$
$m(\widehat{ACB}) = 45°$
$|DC| = 2\sqrt{2}$ br
$\Rightarrow |BD| = x = ?$

A) 1 B) $\sqrt{2}$ C) 2 D) $\sqrt{6}$ E) 4

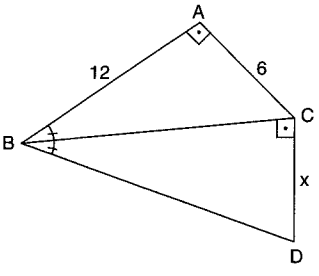
7.



$m(\widehat{BAD}) = m(\widehat{DAC})$
$m(\widehat{ABC}) = 30°$
$m(\widehat{ACB}) = 60°$
$|DC| = 4\sqrt{3}$ br
$\Rightarrow |BD| = x = ?$

A) 4 B) $4\sqrt{3}$ C) 8 D) 12 E) $8\sqrt{3}$

8.

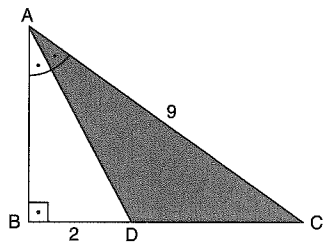


$[BA] \perp [AC]$
$[BC] \perp [CD]$
$|AB| = 12$ br
$|AC| = 6$ br
$\Rightarrow |CD| = x = ?$

A) 3 B) $3\sqrt{2}$ C) $3\sqrt{5}$ D) 6 E) $6\sqrt{5}$

PUZA YAYINLARI

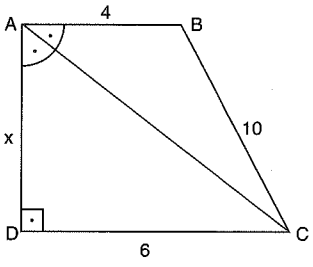
9.



$m(\widehat{BAD}) = m(\widehat{DAC})$
$[AB] \perp [BC]$
$|AC| = 9$ br
$|BD| = 2$ br
$\Rightarrow A(ADC) = ?$

A) $\frac{9}{2}$ B) 6 C) 8 D) 9 E) 18

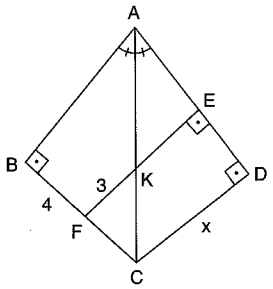
10.



$m(\widehat{DAC}) = m(\widehat{CAB})$
$[AD] \perp [DC]$
$|AB| = 4$ br
$|BC| = 10$ br
$|DC| = 6$ br
$\Rightarrow |AD| = x = ?$

A) 6 B) 8 C) 10 D) 12 E) 14

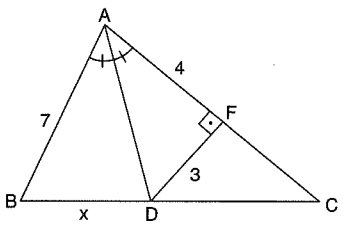
11.



$m(\widehat{BAC}) = m(\widehat{CAD})$
$[AB] \perp [BC]$
$[AD] \perp [DC]$
$[FE] \perp [AD]$
$|BF| = 4$ br
$|FK| = 3$ br
$\Rightarrow |DC| = x = ?$

A) 1 B) 3 C) 4 D) 7 E) 14

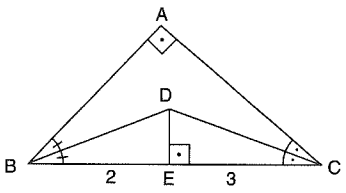
12.



$m(\widehat{BAD}) = m(\widehat{DAC})$
$[DF] \perp [AC]$
$|AF| = 4$ br
$|DF| = 3$ br
$|AB| = 7$ br
$\Rightarrow |BD| = x = ?$

A) 3 B) $3\sqrt{2}$ C) 4 D) 5 E) $5\sqrt{2}$

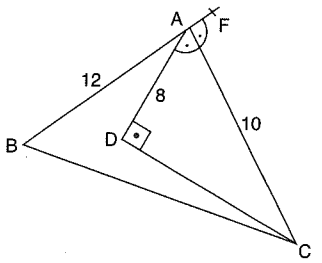
13.



$[DE] \perp [BC]$
$[BA] \perp [AC]$
$m(\widehat{ABD}) = m(\widehat{DBC})$
$m(\widehat{ACD}) = m(\widehat{DCB})$
$|BE| = 2$ br
$|EC| = 3$ br
$\Rightarrow |DE| = ?$

A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3

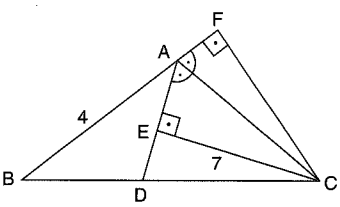
14.



$[AD] \perp [DC]$
$m(\widehat{CAF}) = m(\widehat{DAC})$
$|AB| = 12$ br
$|AC| = 10$ br
$|AD| = 8$ br
$\Rightarrow A(ABC) = ?$

A) 72 B) 36 C) 24 D) 12 E) 6

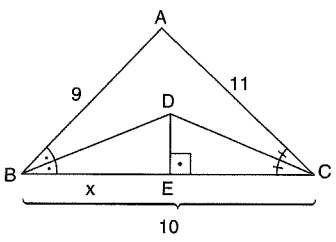
15.



$[BF] \perp [FC]$
$[AD] \perp [CE]$
$m(\widehat{DAC}) = m(\widehat{FAC})$
$|AB| = 4$ br
$|EC| = 7$ br
$\Rightarrow A(ABC) = ?$

A) 28 B) 14 C) 7 D) $\sqrt{7}$ E) 1

16.

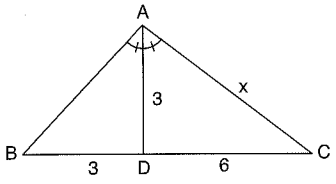


$[DE] \perp [BC]$
$m(\widehat{ABD}) = m(\widehat{DBC})$
$m(\widehat{ACD}) = m(\widehat{DCB})$
$|AB| = 9$ br
$|AC| = 11$ br
$|BC| = 10$ br
$\Rightarrow |BE| = x = ?$

A) 3 B) 4 C) 5 D) 6 E) 8

PUZA YAYINLARI

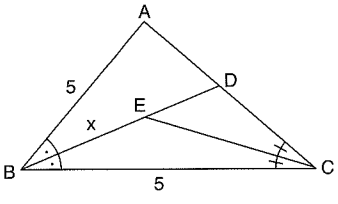
1.



$m(\widehat{BAD}) = m(\widehat{DAC})$
$|AD| = 3$ br
$|BD| = 3$ br
$|DC| = 6$ br
$\Rightarrow |AC| = x = ?$

A) $3\sqrt{6}$ B) $2\sqrt{6}$ C) $\sqrt{6}$ D) $\sqrt{3}$ E) $\sqrt{2}$

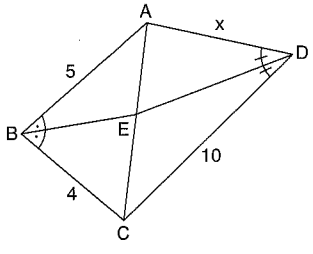
2.



$m(\widehat{ABD}) = m(\widehat{DBC})$
$m(\widehat{DCE}) = m(\widehat{ECB})$
$|AB| = 5$ br
$|BC| = 5$ br
$|AC| = 6$ br
$\Rightarrow |EB| = x = ?$

A) $\frac{1}{2}$ B) 1 C) $\frac{3}{2}$ D) 2 E) $\frac{5}{2}$

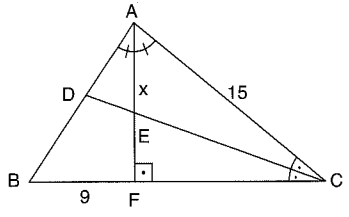
3.



$m(\widehat{ABE}) = m(\widehat{EBC})$
$m(\widehat{ADE}) = m(\widehat{EDC})$
$|AB| = 5$ br
$|DC| = 10$ br
$|BC| = 4$ br
$\Rightarrow |AD| = x = ?$

A) 2 B) 4 C) 8 D) $\frac{25}{2}$ E) 25

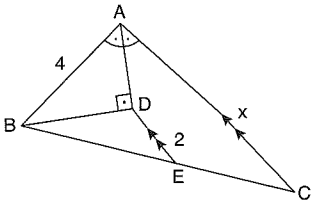
4.



$[AF] \perp [BC]$
$m(\widehat{BAF}) = m(\widehat{FAC})$
$m(\widehat{ACD}) = m(\widehat{DCB})$
$|AC| = 15$ br
$|BF| = 9$ br
$\Rightarrow |AE| = x = ?$

A) $\frac{15}{2}$ B) 6 C) 5 D) $\frac{5}{2}$ E) 2

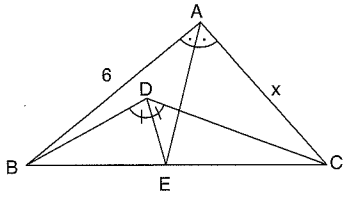
5.



$[AD] \perp [DB]$
$m(\widehat{BAD}) = m(\widehat{DAC})$
$[DE] // [AC]$
$|AB| = 4$ br
$|DE| = 2$ br
$\Rightarrow |AC| = x = ?$

A) 2 B) 4 C) 6 D) 8 E) 10

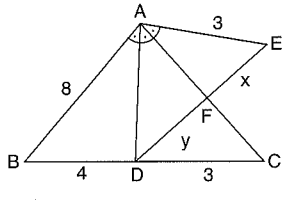
6.



$\frac{|BD|}{|DC|} = \frac{3}{4}$
$m(\widehat{BAE}) = m(\widehat{EAC})$
$m(\widehat{BDE}) = m(\widehat{EDC})$
$|AB| = 6$ br
$\Rightarrow |AC| = x = ?$

A) 16 B) 8 C) 6 D) 4 E) 2

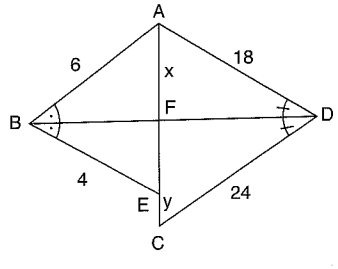
7.



$m(\widehat{BAD}) = m(\widehat{DAC}) = m(\widehat{CAE})$
$|AB| = 8$ br
$|BD| = 4$ br
$|DC| = 3$ br
$|AE| = 3$ br
$|EF| = x$
$|DF| = y$
$\Rightarrow \frac{x}{y} = ?$

A) $\frac{1}{2}$ B) 1 C) 2 D) $\frac{5}{2}$ E) 3

8.

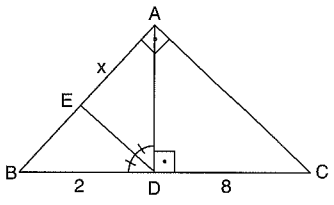


$m(\widehat{ABD}) = m(\widehat{DBE})$
$m(\widehat{ADB}) = m(\widehat{BDC})$
$|AB| = 6$ br
$|AD| = 18$ br
$|DC| = 24$ br
$|BE| = 4$ br
$|AF| = x$
$|EC| = y$
$\Rightarrow \frac{x}{y} = ?$

A) 2 B) 1 C) $\frac{3}{2}$ D) 2 E) $\frac{5}{2}$

PUZA YAYINLARI

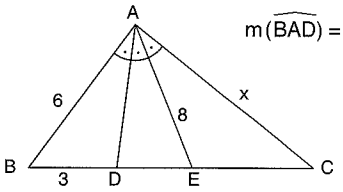
9.



$[BA] \perp [AC]$
$[AD] \perp [BC]$
$m(\widehat{BDE}) = m(\widehat{EDA})$
$|DC| = 8$ br
$|BD| = 2$ br
$\Rightarrow |AE| = x = ?$

A) $\frac{2\sqrt{5}}{3}$ B) $2\sqrt{10}$ C) $\frac{4\sqrt{10}}{3}$ D) 10 E) 20

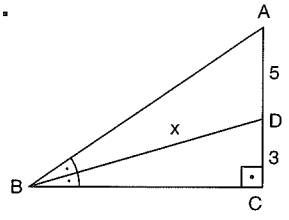
10.



$m(\widehat{BAD}) = m(\widehat{DAE}) = m(\widehat{EAC})$
$|AB| = 6$ br
$|BD| = 3$ br
$|AE| = 8$ br
$\Rightarrow |AC| = x = ?$

A) 6,4 B) 12,8 C) 19,2 D) 20 E) 22

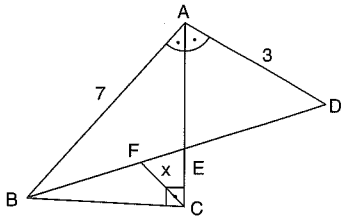
11.



$m(\widehat{ABD}) = m(\widehat{DBC})$
$|AD| = 5$ br
$|DC| = 3$ br
$\Rightarrow |BD| = x = ?$

A) $3\sqrt{5}$ B) 6 C) $6\sqrt{5}$ D) 8 E) 12

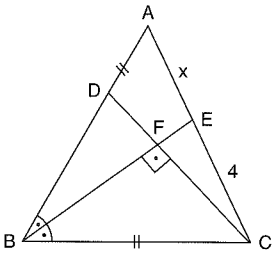
12.



$[BC] \perp [CA]$
$m(\widehat{BAE}) = m(\widehat{EAD})$
$|BF| = |FD|$
$|BA| = 7$ br
$|AD| = 3$ br
$\Rightarrow |FC| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

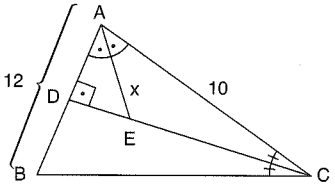
13.



$[BF] \perp [DC]$
$m(\widehat{ABE}) = m(\widehat{EBC})$
$|AD| = |BC|$
$|EC| = 4$ br
$\Rightarrow |AE| = x = ?$

A) 8 B) 4 C) 2 D) 1 E) $\frac{1}{2}$

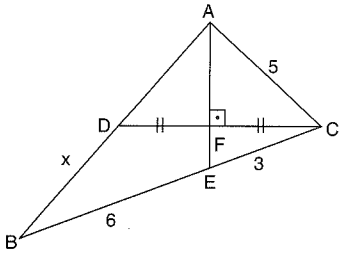
14.



$[AB] \perp [DC]$
$m(\widehat{DAE}) = m(\widehat{EAC})$
$m(\widehat{ACD}) = m(\widehat{DCB})$
$|AB| = 12$ br
$|AC| = 10$ br
$\Rightarrow |AE| = x = ?$

A) 3 B) 5 C) $3\sqrt{5}$ D) 6 E) $6\sqrt{5}$

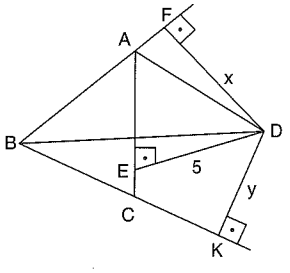
15.



$[AF] \perp [DC]$
$|DF| = |FC|$
$|AC| = 5$ br
$|EC| = 3$ br
$|BE| = 6$ br
$\Rightarrow |DB| = x = ?$

A) 3 B) 5 C) 6 D) 8 E) 10

16.

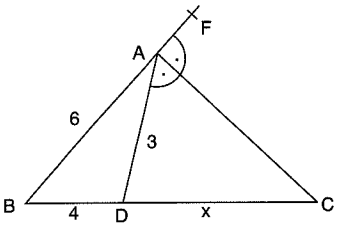


D dış teğet çemberin merkezi
D, central point of the tangential circle
$[ED] \perp [AC]$
$[DF] \perp [BF]$
$[DK] \perp [BK]$
$|ED| = 5$ br
$|FD| = x$
$|DK| = y$
$\Rightarrow x + y = ?$

A) 5 B) $5\sqrt{2}$ C) 10 D) $10\sqrt{2}$ E) $10\sqrt{3}$

PUZA YAYINLARI

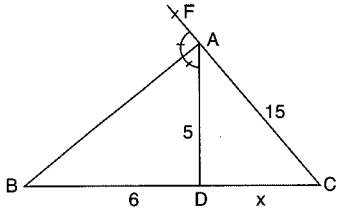
1.



$m(\widehat{DAC}) = m(\widehat{CAF})$
$|AD| = 3$ br
$|AB| = 6$ br
$|BD| = 4$ br
$\Rightarrow |DC| = x = ?$

A) 2 B) $\frac{7}{2}$ C) 4 D) 6 E) $\frac{13}{2}$

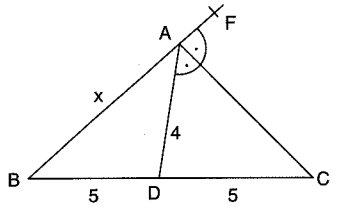
2.



$m(\widehat{FAB}) = m(\widehat{BAD})$
$|AC| = 15$ br
$|BD| = 6$ br
$|AD| = 5$ br
$\Rightarrow |DC| = x = ?$

A) 8 B) 9 C) 10 D) 11 E) 12

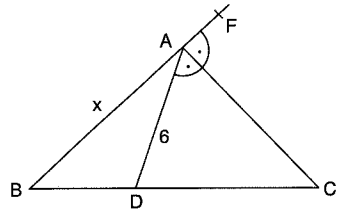
3.



$m(\widehat{DAC}) = m(\widehat{FAC})$
$|BD| = |DC| = 5$ br
$|AD| = 4$ br
$\Rightarrow |AB| = x = ?$

A) 4 B) 6 C) 8 D) 12 E) 20

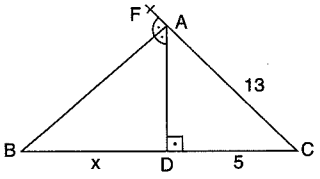
4.



$m(\widehat{FAC}) = m(\widehat{DAC})$
$3|BD| = 4|DC|$
$|AD| = 6$ br
$\Rightarrow |AB| = x = ?$

A) 7 B) 10 C) 14 D) 21 E) 28

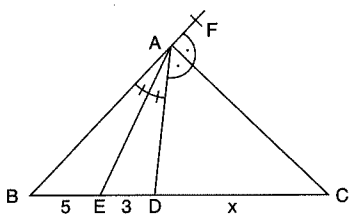
5.



$m(\widehat{FAB}) = m(\widehat{BAD})$
$[AD] \perp [BC]$
$|AC| = 13$ br
$|DC| = 5$ br
$\Rightarrow |BD| = x = ?$

A) 5 B) 12 C) 17 D) 30 E) 60

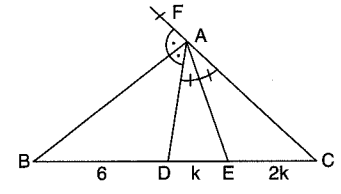
6.



$m(\widehat{FAC}) = m(\widehat{CAD})$
$m(\widehat{BAE}) = m(\widehat{EAD})$
$|BE| = 5$ br
$|ED| = 3$ br
$\Rightarrow |DC| = x = ?$

A) 3 B) 5 C) 6 D) 8 E) 12

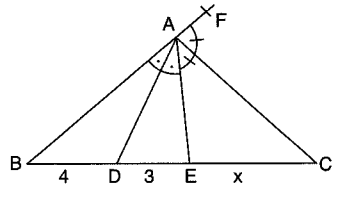
7.



$m(\widehat{FAB}) = m(\widehat{BAD})$
$m(\widehat{DAE}) = m(\widehat{EAC})$
$2|DE| = |EC|$
$|BD| = 6$ br
$\Rightarrow |BE| = ?$

A) 2 B) 6 C) 8 D) 10 E) 12

8.



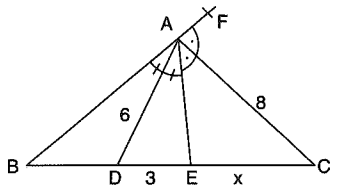
$m(\widehat{FAC}) = m(\widehat{CAE})$
$m(\widehat{BAD}) = m(\widehat{DAE})$
$|BD| = 4$ br
$|DE| = 3$ br
$\Rightarrow |EC| = x = ?$

A) 7 B) 14 C) 21 D) 28 E) 35

PUZA YAYINLARI

www.ztcprep.com

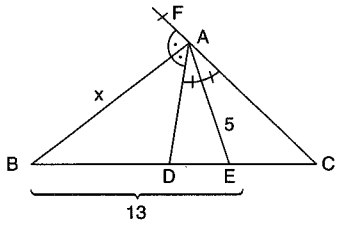
9.



$m(\widehat{BAD}) = m(\widehat{DAE})$
$m(\widehat{FAC}) = m(\widehat{CAE})$
$|AC| = 8$ br
$|AD| = 6$ br
$|DE| = 3$ br
$\Rightarrow |EC| = x = ?$

A) 3 B) 4 C) 7 D) 10 E) 13

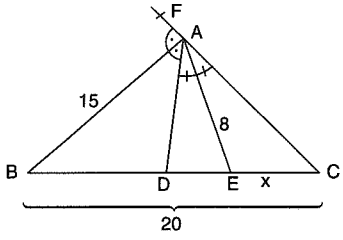
10.



$m(\widehat{FAB}) = m(\widehat{BAD})$
$m(\widehat{DAE}) = m(\widehat{EAC})$
$|AE| = 5$ br
$|BE| = 13$ br
$\Rightarrow |AB| = x = ?$

A) 5 B) 7 C) 8 D) 10 E) 12

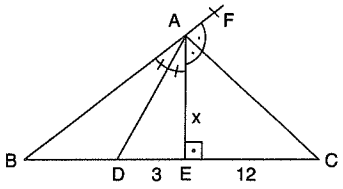
11.



$m(\widehat{FAB}) = m(\widehat{BAD})$
$m(\widehat{DAE}) = m(\widehat{EAC})$
$|AB| = 15$ br
$|AE| = 8$ br
$|BC| = 20$ br
$\Rightarrow |EC| = x = ?$

A) 3 B) 8 C) 17 D) 20 E) 37

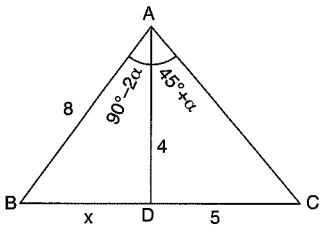
12.



$m(\widehat{FAC}) = m(\widehat{CAE})$
$m(\widehat{EAD}) = m(\widehat{DAB})$
$[AE] \perp [BC]$
$|DE| = 3$ br
$|EC| = 12$ br
$\Rightarrow |AE| = x = ?$

A) 3 B) 6 C) 12 D) $6\sqrt{2}$ E) $6\sqrt{5}$

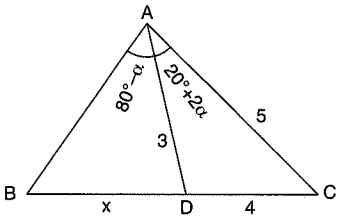
13.



$m(\widehat{BAD}) = 90° - 2\alpha$
$m(\widehat{DAC}) = 45° + \alpha$
$|AD| = 4$ br
$|DC| = 5$ br
$|AB| = 8$ br
$\Rightarrow |BD| = x = ?$

A) 2 B) $2\sqrt{3}$ C) 4 D) 5 E) 10

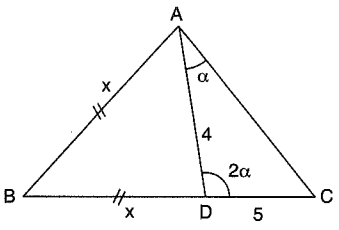
14.



$m(\widehat{BAD}) = 80° - \alpha$
$m(\widehat{DAC}) = 20° + 2\alpha$
$|AD| = 3$ br
$|DC| = 4$ br
$|AC| = 5$ br
$\Rightarrow |BD| = x = ?$

A) 3 B) 4 C) 6 D) 8 E) 12

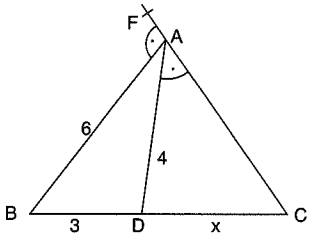
15.



$2m(\widehat{DAC}) = m(\widehat{ADC})$
$|AB| = |BD|$
$|AD| = 4$ br
$|DC| = 5$ br
$\Rightarrow |AB| = x = ?$

A) 5 B) 10 C) 15 D) 20 E) 25

16.

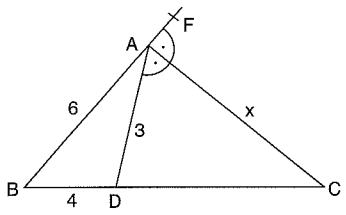


$m(\widehat{FAB}) = m(\widehat{DAC})$
$|AD| = 4$ br
$|AB| = 6$ br
$|BD| = 3$ br
$\Rightarrow |DC| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 6

PUZA YAYINLARI

1.



$m(\widehat{FAC}) = m(\widehat{DAC})$

$|AD| = 3$ br

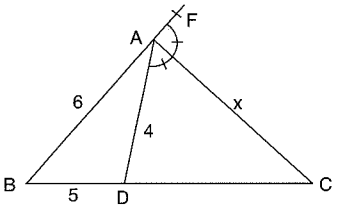
$|BD| = 4$ br

$|AB| = 6$ br

$\Rightarrow |AC| = x = ?$

A) $\sqrt{7}$ B) $\sqrt{14}$ C) $2\sqrt{7}$ D) 7 E) 49

2.



$m(\widehat{FAC}) = m(\widehat{DAC})$

$|AD| = 4$ br

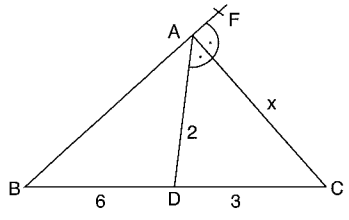
$|AB| = 6$ br

$|BD| = 5$ br

$\Rightarrow |AC| = x = ?$

A) $\sqrt{7}$ B) 3 C) $3\sqrt{7}$ D) $3\sqrt{14}$ E) 12

3.



$m(\widehat{FAC}) = m(\widehat{CAD})$

$|AD| = 2$ br

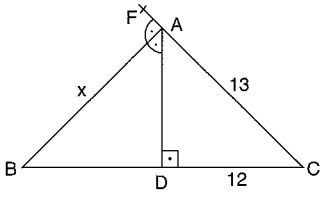
$|BD| = 6$ br

$|DC| = 3$ br

$\Rightarrow |AC| = x = ?$

A) $\sqrt{3}$ B) $\sqrt{5}$ C) $\sqrt{14}$ D) $\sqrt{15}$ E) 6

4.



$m(\widehat{FAB}) = m(\widehat{BAD})$

$[AD] \perp [BC]$

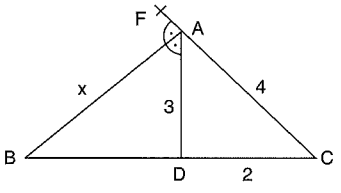
$|AC| = 13$ br

$|DC| = 12$ br

$\Rightarrow |AB| = x = ?$

A) $\frac{5\sqrt{13}}{2}$ B) $5\sqrt{13}$ C) 13 D) $13\sqrt{2}$ E) 26

5.



$m(\widehat{FAB}) = m(\widehat{BAD})$

$|AC| = 4$ br

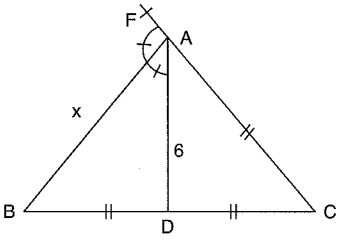
$|DC| = 2$ br

$|AD| = 3$ br

$\Rightarrow |AB| = x = ?$

A) 4 B) 6 C) $6\sqrt{2}$ D) 10 E) 12

6.



$m(\widehat{FAB}) = m(\widehat{BAD})$

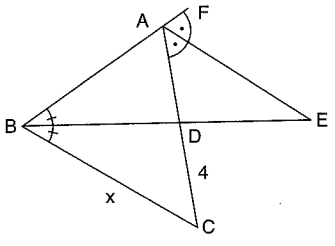
$|AC| = |DC| = |BD|$

$|AD| = 6$ br

$\Rightarrow |AB| = x = ?$

A) $6\sqrt{6}$ B) $6\sqrt{3}$ C) $6\sqrt{2}$ D) 6 E) 3

7.



$m(\widehat{FAE}) = m(\widehat{EAC})$

$m(\widehat{ABE}) = m(\widehat{EBC})$

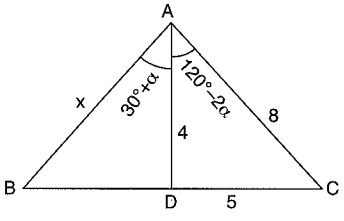
$3|DE| = |BD|$

$|DC| = 4$ br

$\Rightarrow |BC| = x = ?$

A) 4 B) 8 C) 12 D) 16 E) 20

8.



$m(\widehat{BAD}) = 30° + \alpha$

$m(\widehat{DAC}) = 120° - 2\alpha$

$|AC| = 8$ br

$|DC| = 5$ br

$|AD| = 4$ br

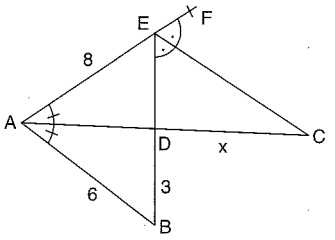
$\Rightarrow |AB| = x = ?$

A) $\sqrt{6}$ B) 3 C) $3\sqrt{2}$ D) 6 E) 12

PUZA YAYINLARI

www.ztcprep.com

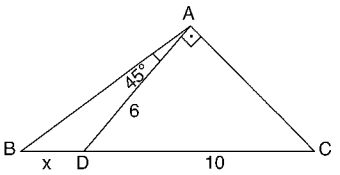
9.



$m(\widehat{FEC}) = m(\widehat{BEC})$
$m(\widehat{FAC}) = m(\widehat{CAB})$
$|AE| = 8$ br
$|AB| = 6$ br
$|DB| = 3$ br
$\Rightarrow |DC| = x = ?$

A) 3 B) 4 C) 6 D) 8 E) 12

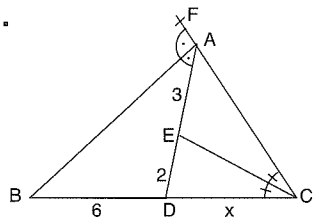
10.



$[DA] \perp [AC]$
$m(\widehat{BAD}) = 45°$
$|AD| = 6$ br
$|DC| = 10$ br
$\Rightarrow |BD| = x = ?$

A) 10 B) 15 C) 30 D) 45 E) 60

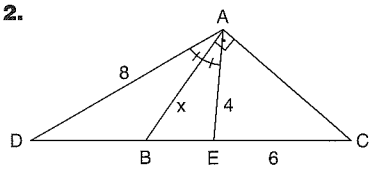
11.



$m(\widehat{FAB}) = m(\widehat{BAD})$
$m(\widehat{ACE}) = m(\widehat{ECB})$
$|AE| = 3$ br
$|ED| = 2$ br
$|BD| = 6$ br
$\Rightarrow |DC| = x = ?$

A) $\frac{5}{2}$ B) 5 C) 8 D) $\frac{15}{2}$ E) $\frac{15}{14}$

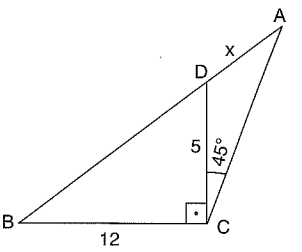
12.



$m(\widehat{DAB}) = m(\widehat{BAE})$
$[BA] \perp [AC]$
$|AE| = 4$ br
$|EC| = 6$ br
$|AD| = 8$ br
$\Rightarrow |AB| = x = ?$

A) 2 B) $2\sqrt{3}$ C) $3\sqrt{2}$ D) $2\sqrt{6}$ E) $3\sqrt{6}$

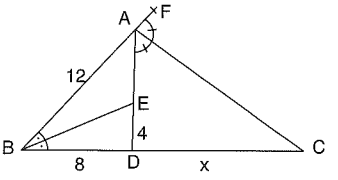
13.



$[BC] \perp [CD]$
$m(\widehat{DCA}) = 45°$
$|BC| = 12$ br
$|DC| = 5$ br
$\Rightarrow |AD| = x = ?$

A) $\frac{65}{17}$ B) $\frac{65}{7}$ C) 12 D) 13 E) 15

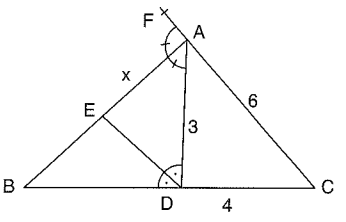
14.



$m(\widehat{FAC}) = m(\widehat{CAD})$
$m(\widehat{FBE}) = m(\widehat{EBC})$
$|ED| = 4$ br
$|AB| = 12$ br
$|BD| = 8$ br
$\Rightarrow |DC| = x = ?$

A) 5 B) 10 C) 20 D) 30 E) 40

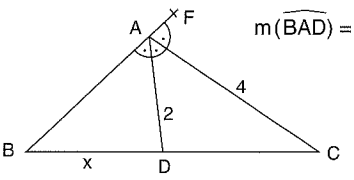
15.



$m(\widehat{FAB}) = m(\widehat{BAD})$
$m(\widehat{ADE}) = m(\widehat{EDB})$
$|AC| = 6$ br
$|DC| = 4$ br
$|AD| = 3$ br
$\Rightarrow |AE| = x = ?$

A) $\frac{\sqrt{7}}{2}$ B) $\frac{\sqrt{7}}{3}$ C) $\frac{\sqrt{14}}{2}$ D) $\frac{\sqrt{14}}{7}$ E) $\frac{3\sqrt{14}}{7}$

16.

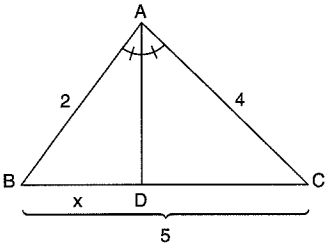


$m(\widehat{BAD}) = m(\widehat{DAC}) = m(\widehat{CAF})$
$|AC| = 4$ br
$|AD| = 2$ br
$\Rightarrow |BD| = x = ?$

A) 1 B) $\sqrt{3}$ C) 2 D) $2\sqrt{3}$ E) $\sqrt{6}$

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

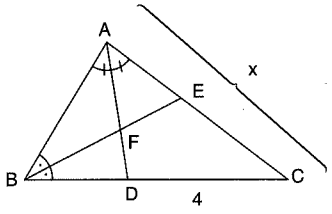
1.



$m(\widehat{BAD}) = m(\widehat{DAC})$
$|AB| = 2$ br
$|AC| = 4$ br
$|BC| = 5$ br
$\Rightarrow |BD| = x = ?$

A) 1 B) $\frac{5}{3}$ C) 3 D) $\frac{10}{3}$ E) 4

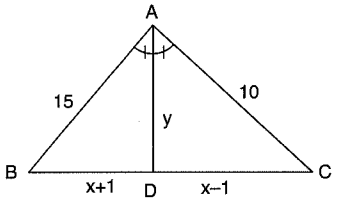
2.



$2|AF| = 3|FD|$
$m(\widehat{BAD}) = m(\widehat{DAC})$
$m(\widehat{ABE}) = m(\widehat{EBC})$
$|DC| = 4$ br
$\Rightarrow |AC| = x = ?$

A) 1 B) 3 C) 4 D) 6 E) 9

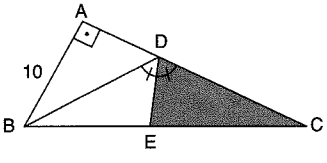
3.



$m(\widehat{BAD}) = m(\widehat{DAC})$
$|AB| = 15$ br
$|AC| = 10$ br
$|BD| = x + 1$
$|DC| = x - 1$
$\Rightarrow |AD| = y = ?$

A) $\sqrt{7}$ B) $2\sqrt{7}$ C) $\sqrt{17}$ D) $3\sqrt{14}$ E) $9\sqrt{17}$

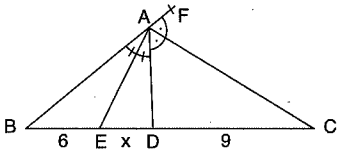
4.



$m(\widehat{BDE}) = m(\widehat{EDC})$
$2|BD| = 3|DC| = 24$
$|AB| = 10$ br
$\Rightarrow A(EDC) = ?$

A) 8 B) 10 C) 12 D) 16 E) 20

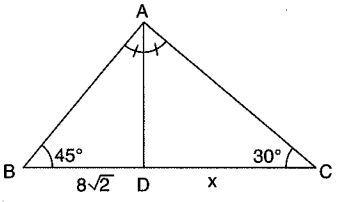
5.



$m(\widehat{FAC}) = m(\widehat{CAD})$
$m(\widehat{DAE}) = m(\widehat{EAB})$
$|DC| = 9$ br
$|BE| = 6$ br
$\Rightarrow |ED| = x = ?$

A) 1 B) 3 C) 4 D) 6 E) 9

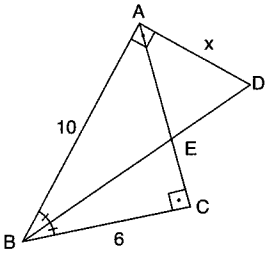
6.



$m(\widehat{BAD}) = m(\widehat{DAC})$
$m(\widehat{ABC}) = 45°$
$m(\widehat{ACB}) = 30°$
$|BD| = 8\sqrt{2}$ br
$\Rightarrow |DC| = x = ?$

A) 16 B) $8\sqrt{2}$ C) 8 D) $4\sqrt{2}$ E) 4

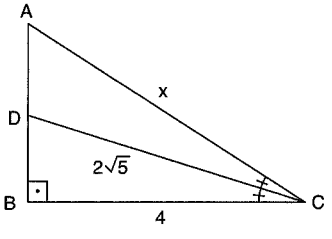
7.



$m(\widehat{ABD}) = m(\widehat{DBC})$
$[BA] \perp [AD]$
$[AC] \perp [BC]$
$|AB| = 10$ br
$|BC| = 6$ br
$\Rightarrow |AD| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

8.

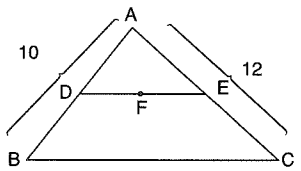


$m(\widehat{ACD}) = m(\widehat{DCB})$
$[AB] \perp [BC]$
$|BC| = 4$ br
$|DC| = 2\sqrt{5}$ br
$\Rightarrow |AC| = x = ?$

A) 4 B) 6 C) $\frac{10}{3}$ D) $\frac{20}{3}$ E) 10

PUZA YAYINLARI

9.



F noktası iç teğet çemberin merkezi

F, the central point of the inner tangential circle

[DE] // [BC]

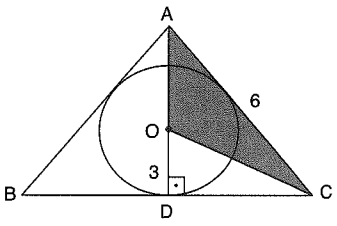
|AB| = 10 br

|AC| = 12 br

⇒ Ç(ADE) = ?

A) 10 B) 12 C) 22 D) 44 E) 66

10.



O iç teğet çemberin merkezi

O, the central point of the inner tangential circle

[AD] ⊥ [BC]

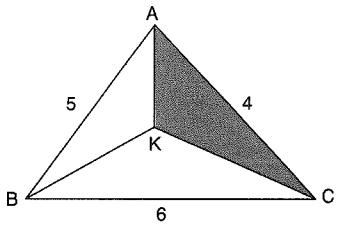
|AC| = 6 br

|OD| = 3 br

⇒ A(AOC) = ?

A) 3 B) 6 C) 9 D) 12 E) 18

11.



K iç teğet çemberin merkezi

K, the central point of the inner tangential circle

|AC| = 4 br

|BC| = 6 br

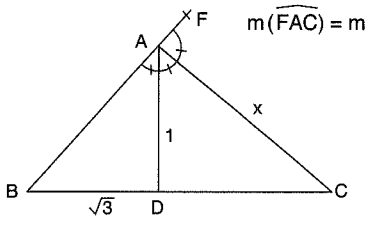
|AB| = 5 br

A(AKC) = 12 br²

⇒ A(ABC) = ?

A) 30 B) 32 C) 35 D) 40 E) 45

12.



$m(\widehat{FAC}) = m(\widehat{CAD}) = m(\widehat{DAB})$

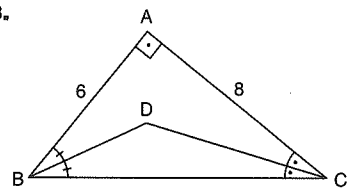
|AD| = 1 br

$|BD| = \sqrt{3}$ br

⇒ |AC| = x = ?

A) 1 B) $\sqrt{3}$ C) 2 D) $2\sqrt{3}$ E) 4

13.



[AB] ⊥ [AC]

|AB| = 6 br

|AC| = 8 br

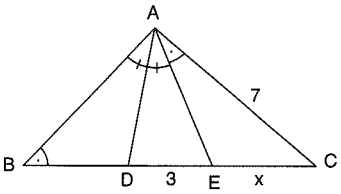
$m(\widehat{ABD}) = m(\widehat{DBC})$

$m(\widehat{ACD}) = m(\widehat{DCB})$

⇒ A(BCD) = ?

A) 6 B) 8 C) 10 D) 12 E) 24

14.



$m(\widehat{BAD}) = m(\widehat{DAE})$

$m(\widehat{ABC}) = m(\widehat{EAC})$

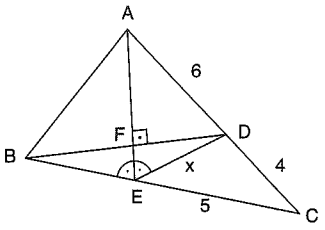
|AC| = 7 br

|DE| = 3 br

⇒ |EC| = x = ?

A) 2 B) 3 C) 4 D) 7 E) 10

15.



[AF] ⊥ [BD]

$m(\widehat{BEA}) = m(\widehat{AED})$

|AD| = 6 br

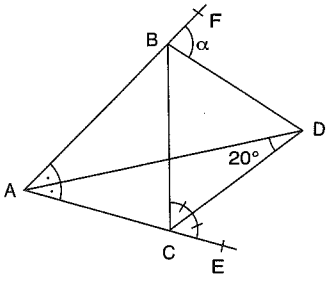
|DC| = 4 br

|EC| = 5 br

⇒ |ED| = x = ?

A) 1 B) 2 C) 3 D) 4 E) 5

16.



$m(\widehat{FAD}) = m(\widehat{DAE})$

$m(\widehat{BCD}) = m(\widehat{DCE})$

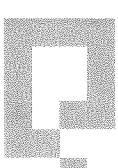
$m(\widehat{ADC}) = 20°$

⇒ $m(\widehat{FBD}) = \alpha$ = ?

A) 10 B) 20 C) 35 D) 70 E) 140

PUZA YAYINLARI

ZTC زنگنه مجموعه موسسات



AÇIORTAY BISECTOR
Yanıt Anahtarı Answer Key

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	A	C	D	A	E	A	C	D	C	C	A	B	E	D	D

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	C	E	D	B	B	B	E	B	C	C	D	C	D	C	B

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	C	D	C	C	E	D	C	D	D	D	B	A	B	B	B

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	E	D	A	D	B	A	C	A	C	A	B	A	C	B	C

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	E	C	C	E	E	C	C	C	E	A	B	D	C	D	E

TEST 6

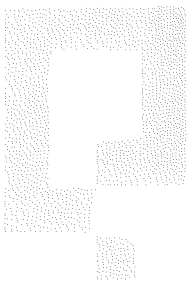
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	D	D	A	B	A	D	C	C	C	D	D	B	E	E	D

TEST 7

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	D	D	D	B	A	E	D	C	C	E	C	C	C	C	D

www.ztcprep.com

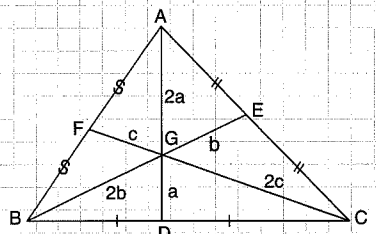
زنگنه ZTC
مجموعه موسسات



KENARORTA
MEDIAN

www.ztcprep.com

ÖZELLİK/Property 1



$|AD| = V_a$

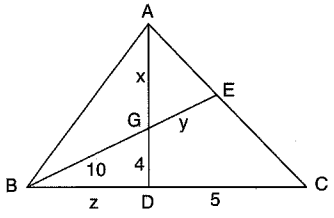
$|BE| = V_b$

$|CF| = V_c$

G ağırlık merkezi

G, center of gravity

1.



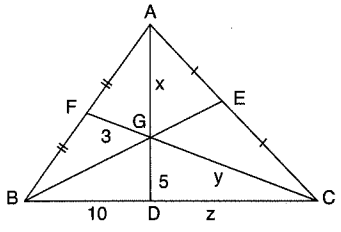
G ağırlık merkezi

G, center of gravity

$\Rightarrow x + y + z = ?$

18

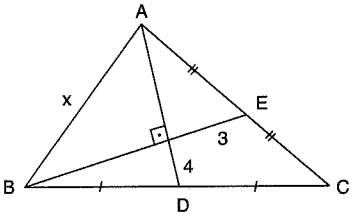
2.



$\Rightarrow x + y + z = ?$

26

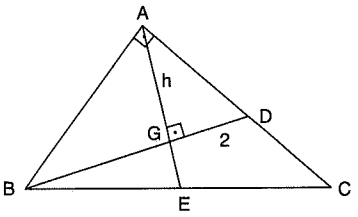
3.



$\Rightarrow x = ?$

10

4.



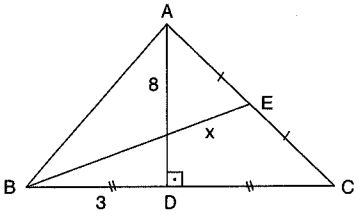
G ağırlık merkezi

G, center of gravity

$\Rightarrow h = ?$

$2\sqrt{2}$

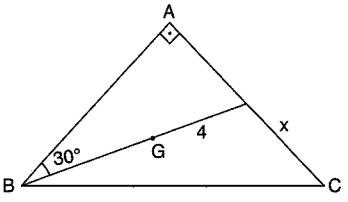
5.



$\Rightarrow x = ?$

$\frac{5}{2}$

6.



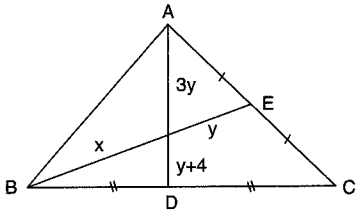
G ağırlık merkezi

G, center of gravity

$\Rightarrow x = ?$

6

7.

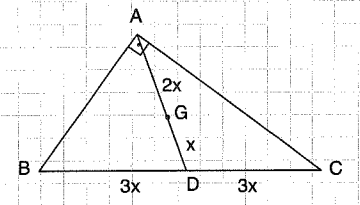


$\Rightarrow x = ?$

16

PUZA YAYINLARI

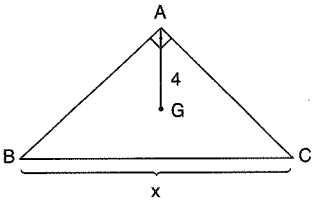
ÖZELLİK | Property 2



G ağırlık merkezi

G, center of gravity

1.



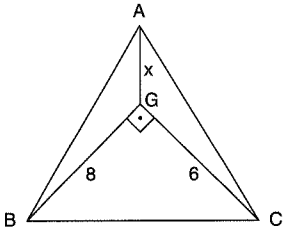
G ağırlık merkezi

G, center of gravity

⇒ x = ?

12

2.



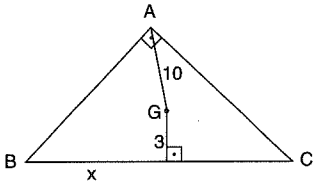
G ağırlık merkezi

G, center of gravity

⇒ x = ?

10

3.



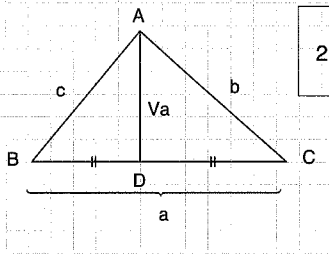
G ağırlık merkezi

G, center of gravity

⇒ x = ?

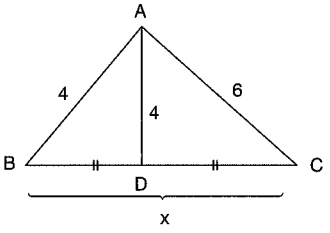
11

ÖZELLİK | Property 3



$$2(Va)^2 = b^2 + c^2 - \frac{a^2}{2}$$

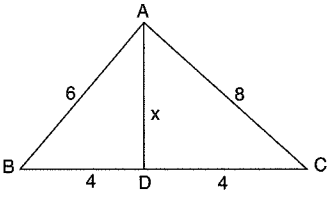
1.



⇒ x = ?

$2\sqrt{10}$

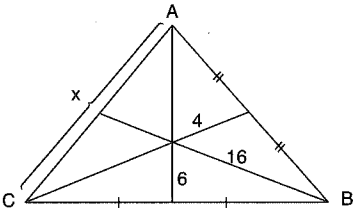
2.



⇒ x = ?

$\sqrt{34}$

3.

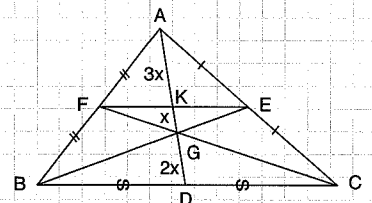


⇒ x = ?

$4\sqrt{10}$

PUZA YAYINLARI

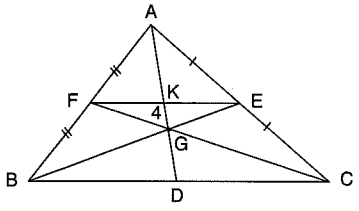
ÖZELLİK | Property 4



G ağırlık merkezi

G, center of gravity

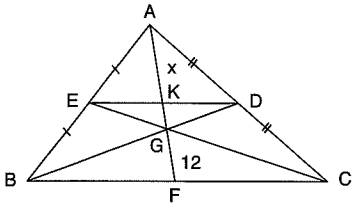
1.



⇒ |AD| = ?

24

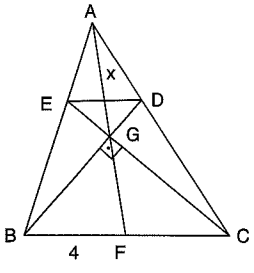
2.



⇒ x = ?

18

3.



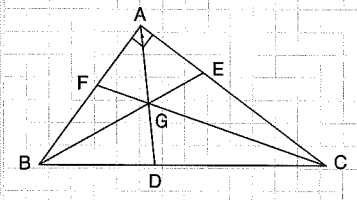
G ağırlık merkezi

G, center of gravity

⇒ x = ?

6

ÖZELLİK | Property 5



$|AD| = V_a$

$|BE| = V_b$

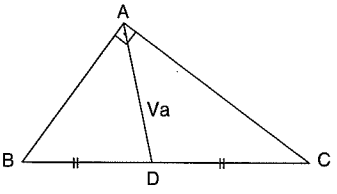
$|CF| = V_c$

G ağırlık merkezi

G, center of gravity

$5V_a^2 = V_b^2 + V_c^2$

1.



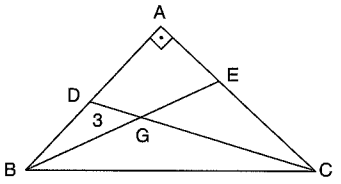
V_b = 12 br

V_c = 9 br

⇒ V_a = ?

$3\sqrt{5}$

2.



G ağırlık merkezi

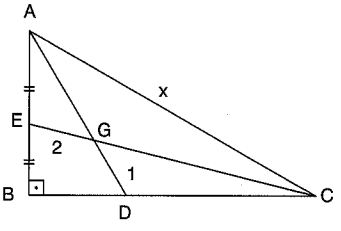
G, center of gravity

|BE| = 7 br

⇒ V_a = ?

$\sqrt{26}$

3.



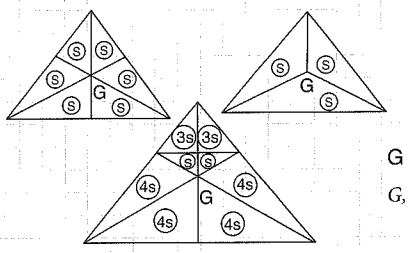
G ağırlık merkezi

G, center of gravity

⇒ x = ?

6

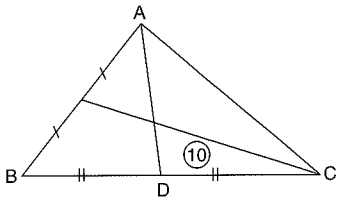
ÖZELLİK|Property 6



G ağırlık merkezi

G, center of gravity

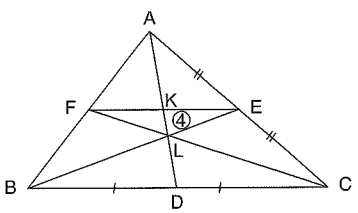
1.



⇒ A(ABC) = ?

60

2.

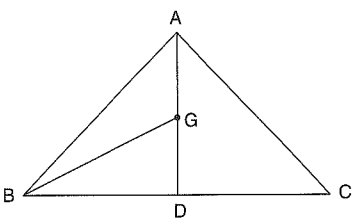


A(KEL) = 4 br²

⇒ A(ABC) = ?

96

3.



A(ABC) = 120 br²

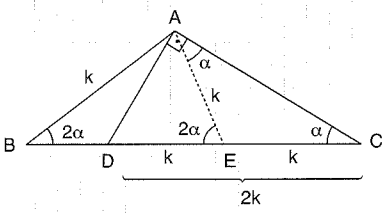
G ağırlık merkezi

G, center of gravity

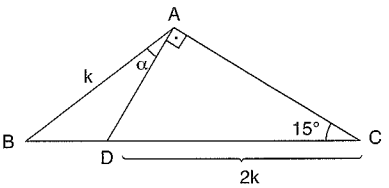
⇒ A(BGD) = ?

20

ÖZELLİK|Property 7



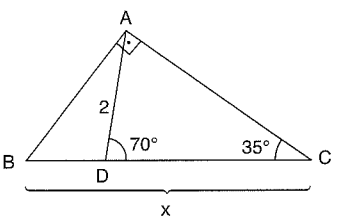
1.



⇒ α = ?

45

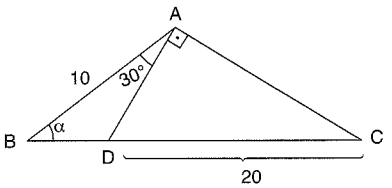
2.



⇒ x = ?

4

3.

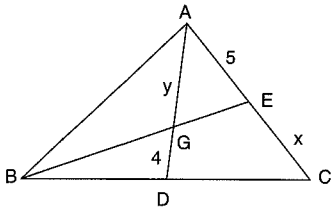


⇒ α = ?

40

PUZA YAYINLARI

1.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$|AE| = 5$ br

$|GD| = 4$ br

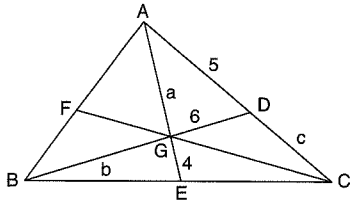
$|EC| = x$

$|AG| = y$

$\Rightarrow y - x = ?$

A) 1 B) 2 C) 3 D) 5 E) 9

2.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$|AD| = 5$ br

$|GE| = 4$ br

$|GD| = 6$ br

$|AG| = a$

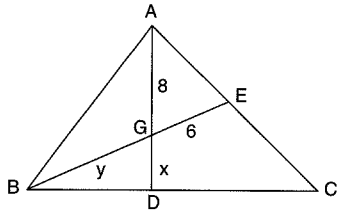
$|BG| = b$

$|DC| = c$

$\Rightarrow \frac{a+b}{c} = ?$

A) 1 B) $\frac{7}{5}$ C) 2 D) $\frac{14}{5}$ E) 4

3.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$|AG| = 8$ br

$|GE| = 6$ br

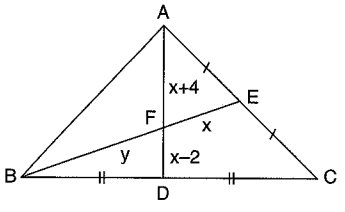
$|BG| = y$

$|GD| = x$

$\Rightarrow y - x = ?$

A) 1 B) 4 C) 6 D) 8 E) 10

4.



$|AE| = |EC|$

$|BD| = |DC|$

$|AF| = (x + 4)$ br

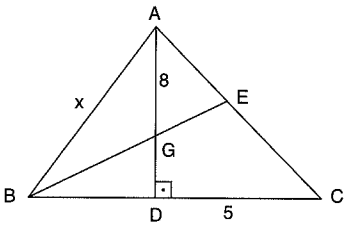
$|FD| = (x - 2)$ br

$|FE| = x$ br

$\Rightarrow |BF| = y = ?$

A) 16 B) 12 C) 10 D) 8 E) 4

5.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$[AD] \perp [BC]$

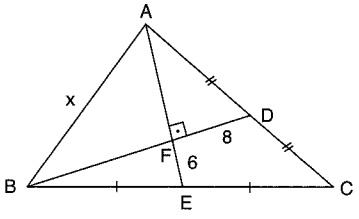
$|AG| = 8$ br

$|DC| = 5$ br

$\Rightarrow |AB| = x = ?$

A) 3 B) 5 C) 12 D) 13 E) 15

6.



$[AE] \perp [BD]$

$|AD| = |DC|$

$|BE| = |EC|$

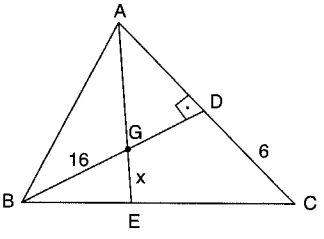
$|FD| = 8$ br

$|FE| = 6$ br

$\Rightarrow |AB| = x = ?$

A) 2 B) 4 C) 5 D) 10 E) 20

7.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$[BD] \perp [AC]$

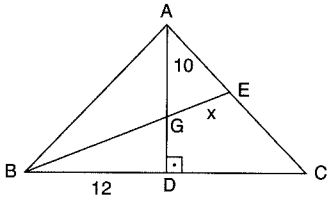
$|BG| = 16$ br

$|DC| = 6$ br

$\Rightarrow |GE| = x = ?$

A) 5 B) 10 C) 12 D) 13 E) 15

8.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$[AD] \perp [BC]$

$|AG| = 10$ br

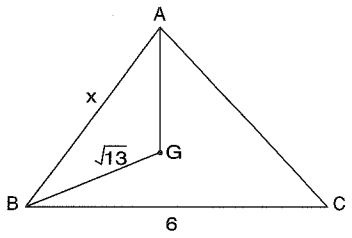
$|BD| = 12$ br

$\Rightarrow |GE| = x = ?$

A) 26 B) 13 C) $\frac{13}{2}$ D) $\frac{13}{4}$ E) $\frac{13}{8}$

PUZA YAYINLARI

9.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$|AB| = |AC|$

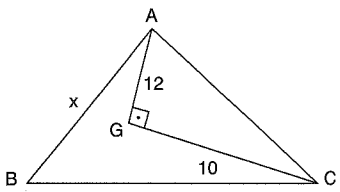
$|BC| = 6$ br

$|BG| = \sqrt{13}$

$\Rightarrow |AB| = x = ?$

A) 13 B) 10 C) 8 D) $3\sqrt{5}$ E) $6\sqrt{5}$

10.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$[AG] \perp [GC]$

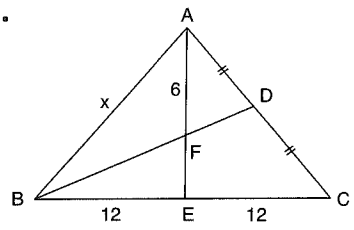
$|AG| = 12$ br

$|GC| = 10$ br

$\Rightarrow |AB| = x = ?$

A) 26 B) 20 C) 16 D) 13 E) 10

11.



$|AB| = |AC|$

$|AD| = |DC|$

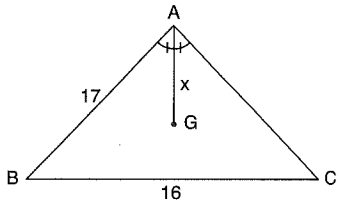
$|BE| = |EC| = 12$ br

$|AF| = 6$ br

$\Rightarrow |AB| = x = ?$

A) $15\sqrt{3}$ B) 15 C) $10\sqrt{3}$ D) 10 E) 5

12.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$m(\widehat{BAG}) = m(\widehat{GAC})$

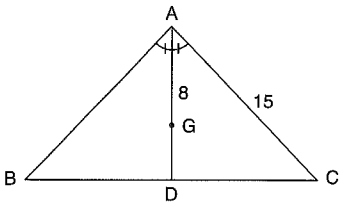
$|AB| = 17$ br

$|BC| = 16$ br

$\Rightarrow |AG| = x = ?$

A) 30 B) 20 C) 15 D) 10 E) 5

13.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$m(\widehat{BAD}) = m(\widehat{DAC})$

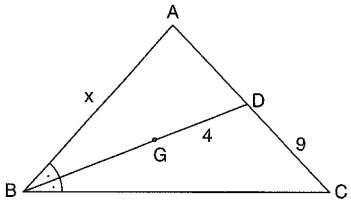
$|AC| = 15$ br

$|AG| = 8$ br

$\Rightarrow |BC| = ?$

A) 20 B) 18 C) 15 D) 12 E) 10

14.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$m(\widehat{ABD}) = m(\widehat{DBC})$

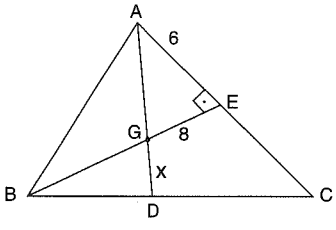
$|DC| = 9$ br

$|GD| = 4$ br

$\Rightarrow |AB| = x = ?$

A) 25 B) 20 C) 15 D) 10 E) 5

15.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

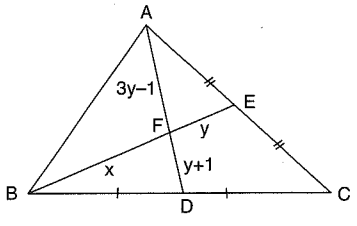
$|AE| = 6$ br

$|GE| = 8$ br

$\Rightarrow |GD| = x = ?$

A) 20 B) 10 C) $\frac{15}{2}$ D) 5 E) $\frac{5}{2}$

16.



$|AE| = |EC|$

$|BD| = |DC|$

$|AF| = (3y - 1)$ br

$|FD| = (y + 1)$ br

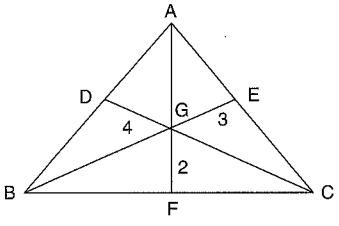
$|FE| = y$ br

$\Rightarrow |BF| = x = ?$

A) 3 B) 6 C) 8 D) 9 E) 11

PUZA YAYINLARI

1.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$|DG| = 4$ br

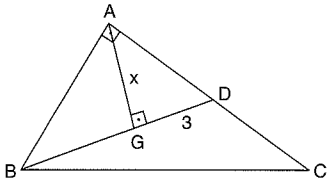
$|GE| = 3$ br

$|GF| = 2$ br

$\Rightarrow V_a + V_b + V_c = ?$

A) 30 B) 27 C) 18 D) 9 E) $\frac{9}{2}$

2.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$[BA] \perp [AC]$

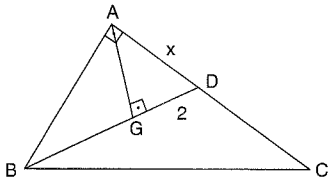
$[BD] \perp [AG]$

$|GD| = 3$ br

$\Rightarrow |AG| = x = ?$

A) $\sqrt{3}$ B) 3 C) $3\sqrt{2}$ D) $\sqrt{6}$ E) $6\sqrt{2}$

3.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$[BA] \perp [AD]$

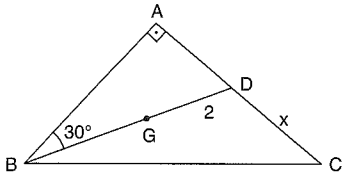
$[BD] \perp [AG]$

$|GD| = 2$ br

$\Rightarrow |AD| = x = ?$

A) $\sqrt{2}$ B) $\sqrt{3}$ C) $\sqrt{6}$ D) $2\sqrt{3}$ E) $3\sqrt{2}$

4.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$[BA] \perp [AC]$

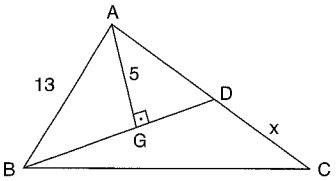
$m(\widehat{ABD}) = 30°$

$|GD| = 2$ br

$\Rightarrow |DC| = x = ?$

A) 1 B) 2 C) $2\sqrt{3}$ D) 3 E) $3\sqrt{3}$

5.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$[AG] \perp [BD]$

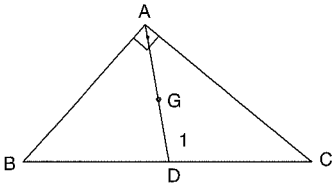
$|AG| = 5$ br

$|AB| = 13$ br

$\Rightarrow |DC| = x = ?$

A) 13 B) 10 C) $\sqrt{61}$ D) 7 E) $\sqrt{11}$

6.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

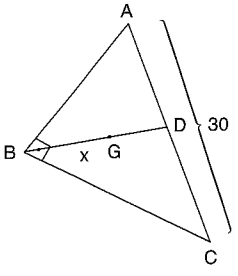
$[BA] \perp [AC]$

$|GD| = 1$ br

$\Rightarrow |BC| = ?$

A) 1 B) 2 C) 3 D) 6 E) 9

7.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

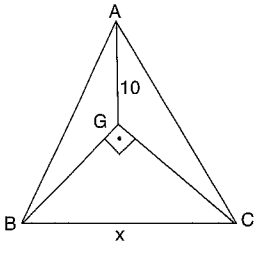
$[AB] \perp [BC]$

$|AC| = 30$ br

$\Rightarrow |BG| = x = ?$

A) 5 B) 10 C) 15 D) 20 E) 30

8.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$[BG] \perp [GC]$

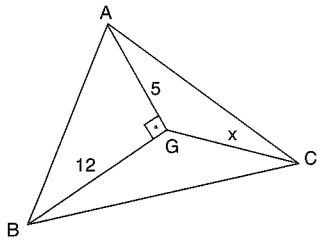
$|AG| = 10$ br

$\Rightarrow |BC| = x = ?$

A) 5 B) 10 C) 15 D) 20 E) 30

PUZA YAYINLARI

9.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

[AG] ⊥ [GB]

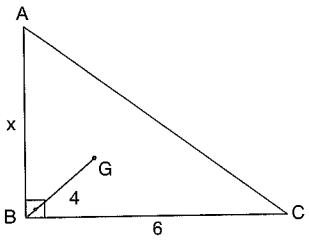
|AG| = 5 br

|BG| = 12 br

⇒ |GC| = x = ?

A) 5 B) 12 C) 13 D) 20 E) $\frac{26}{3}$

10.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

[AB] ⊥ [BC]

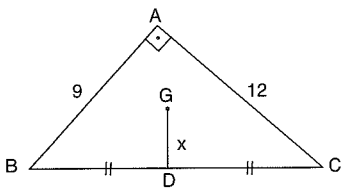
|BG| = 4 br

|BC| = 6 br

⇒ |AB| = x = ?

A) 6 B) 10 C) 12 D) $6\sqrt{3}$ E) 20

11.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

|AB| = 9 br

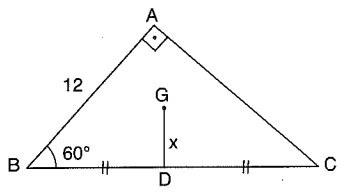
|AC| = 12 br

|BD| = |DC|

⇒ |GD| = x = ?

A) 15 B) $\frac{15}{2}$ C) 5 D) $\frac{5}{2}$ E) 2

12.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

[BA] ⊥ [AC]

|BD| = |DC|

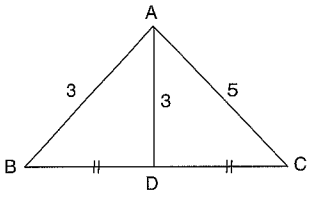
|AB| = 12 br

$m(\widehat{ABC}) = 60°$

⇒ |GD| = x = ?

A) $\sqrt{3}$ B) 4 C) 6 D) $6\sqrt{3}$ E) $12\sqrt{3}$

13.



|BD| = |DC|

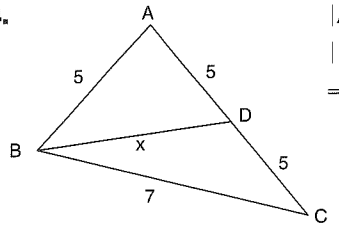
|AB| = |AD| = 3 br

|AC| = 5 br

⇒ |BC| = ?

A) $4\sqrt{2}$ B) 4 C) $3\sqrt{2}$ D) 3 E) 2

14.



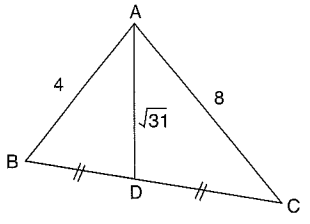
|AB| = |AD| = |DC| = 5 br

|BC| = 7 br

⇒ |BD| = x = ?

A) $2\sqrt{3}$ B) 8 C) $4\sqrt{3}$ D) 6 E) 2

15.



|BD| = |DC|

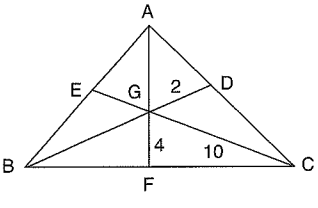
2|AB| = |AC| = 8 br

|AD| = $\sqrt{31}$ br

⇒ |BC| = ?

A) 3 B) $3\sqrt{3}$ C) $4\sqrt{3}$ D) 6 E) 12

16.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

|GD| = 2 br

|GF| = 4 br

|GC| = 10 br

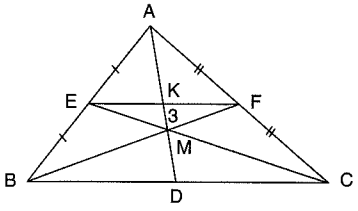
⇒ |AB| = ?

A) $\sqrt{15}$ B) $2\sqrt{15}$ C) $4\sqrt{15}$ D) 15 E) 30

PUZA YAYINLARI

www.ztcprep.com

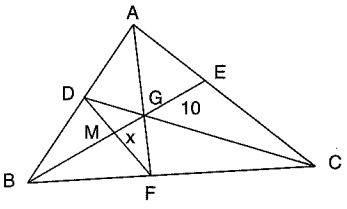
1.



|AE| = |EB|
|AF| = |FC|
|KM| = 3 br
⇒ |AD| = ?

A) 6 B) 9 C) 15 D) 18 E) 24

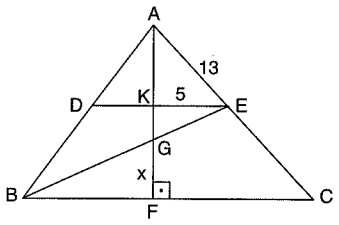
2.



G, ABC üçgeninin ağırlık merkezi
G, center of gravity ABC triangle's
|GE| = 10 br
⇒ |MG| = x = ?

A) 5 B) 10 C) 15 D) 25 E) 30

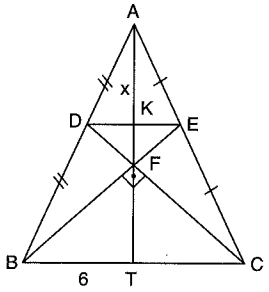
3.



G, ABC üçgeninin ağırlık merkezi
G, center of gravity ABC triangle's
[AF] ⊥ [BC]
[DE] // [BC]
|KE| = 5 br
|AE| = 13 br
⇒ |GF| = x = ?

A) 4 B) 8 C) 12 D) 16 E) 20

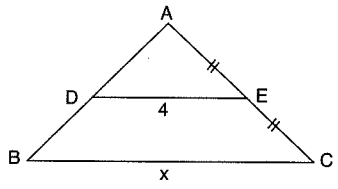
4.



|AD| = |DB|
|AE| = |EC|
[BF] ⊥ [FC]
|BT| = 6 br
⇒ |AK| = x = ?

A) 3 B) 6 C) 8 D) 9 E) 12

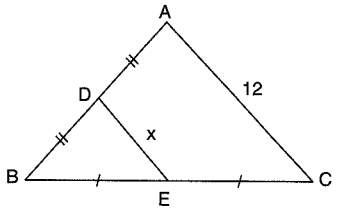
5.



[DE] // [BC]
|AE| = |EC|
|DE| = 4 br
⇒ |BC| = x = ?

A) 2 B) 4 C) 6 D) 8 E) 12

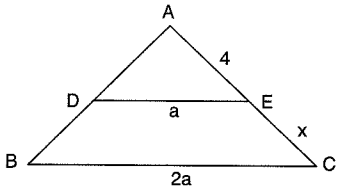
6.



|AD| = |DB|
|BE| = |EC|
|AC| = 12 br
⇒ |DE| = x = ?

A) 3 B) 6 C) 9 D) 10 E) 12

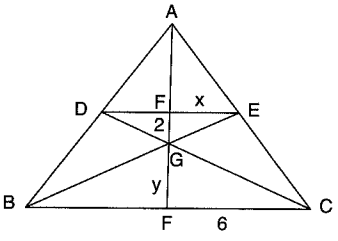
7.



[DE] // [BC]
2|DE| = |BC|
|AE| = 4 br
⇒ |EC| = x = ?

A) 1 B) 2 C) 4 D) 6 E) 8

8.



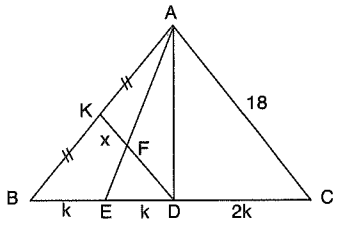
G, ABC üçgeninin ağırlık merkezi
G, center of gravity ABC triangle's
|FG| = 2 br
|FC| = 6 br
|FE| = x
|GF| = y
⇒ x + y = ?

A) 6 B) 7 C) 9 D) 10 E) 12

PUZA YAYINLARI

www.ztcprep.com

9.



$2|BE| = 2|ED| = |DC|$

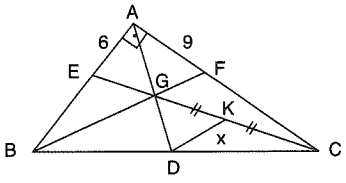
$|AK| = |KB|$

$|AC| = 18$ br

$\Rightarrow |KF| = x = ?$

A) 3 B) 6 C) 9 D) 12 E) 15

10.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$[BA] \perp [AC]$

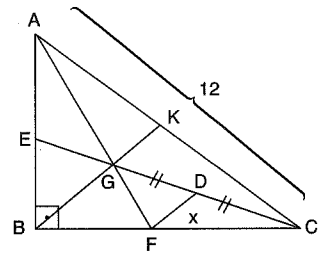
$|AE| = 6$ br

$|AF| = 9$ br

$\Rightarrow |DK| = x = ?$

A) $\frac{5}{2}$ B) 5 C) $\frac{15}{2}$ D) 10 E) 15

11.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$[AB] \perp [BC]$

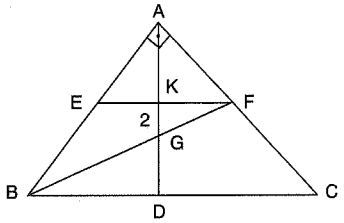
$|GD| = |DC|$

$|AC| = 12$ br

$\Rightarrow |FD| = x = ?$

A) 2 B) 4 C) 6 D) 9 E) 12

12.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$[BA] \perp [AC]$

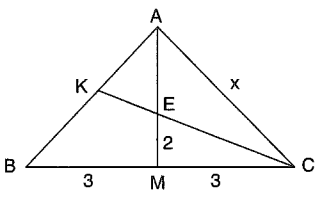
$[EF] \,//\, [BC]$

$|KG| = 2$ br

$\Rightarrow |KF| = ?$

A) 2 B) 3 C) 4 D) 6 E) 12

13.



$2|AK| = 2|KB| = 5$ br

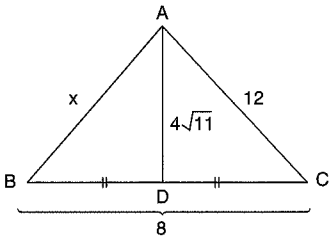
$|BM| = |MC| = 3$ br

$|EM| = 2$ br

$\Rightarrow |AC| = x = ?$

A) 4 B) $\sqrt{19}$ C) 5 D) $\sqrt{29}$ E) $\sqrt{65}$

14.



$|BD| = |DC|$

$|AC| = 12$ br

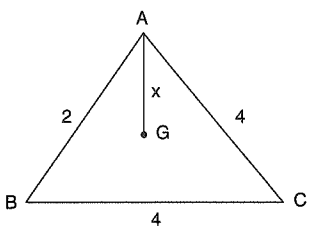
$|BC| = 8$ br

$|AD| = 4\sqrt{11}$ br

$\Rightarrow |AB| = x = ?$

A) 4 B) $2\sqrt{15}$ C) 8 D) 10 E) $4\sqrt{15}$

15.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

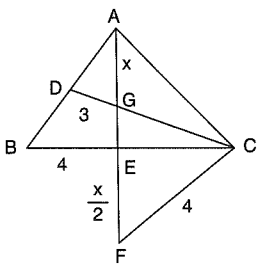
$|AB| = 2$ br

$|AC| = |BC| = 4$ br

$\Rightarrow |AG| = x = ?$

A) $\frac{\sqrt{6}}{3}$ B) $\sqrt{6}$ C) $\frac{2\sqrt{6}}{3}$ D) $2\sqrt{6}$ E) 12

16.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$|BE| = |FC| = 4$ br

$|DG| = 3$ br

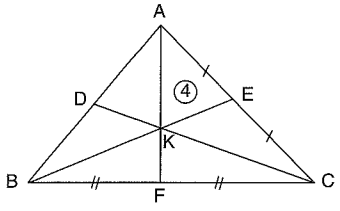
$|EF| = \frac{x}{2}$

$\Rightarrow |AG| = x = ?$

A) $\sqrt{10}$ B) $2\sqrt{10}$ C) 7 D) 10 E) $4\sqrt{10}$

PUZA YAYINLARI

1.



$|AE| = |EC|$

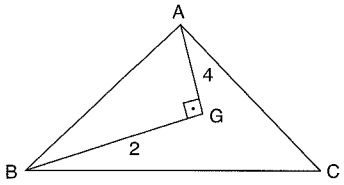
$|BF| = |FC|$

$A(AKE) = 4\ br^2$

$\Rightarrow A(ABC) = ?$

A) 8 B) 16 C) 24 D) 48 E) 96

2.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$[AG] \perp [BG]$

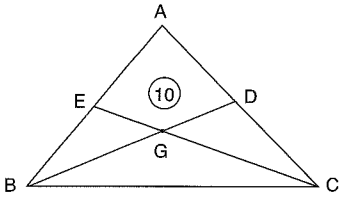
$|AG| = 4\ br$

$|BG| = 2\ br$

$\Rightarrow A(ABC) = ?$

A) 4 B) 8 C) 12 D) 16 E) 20

3.



G, ABC üçgeninin ağırlık merkezi

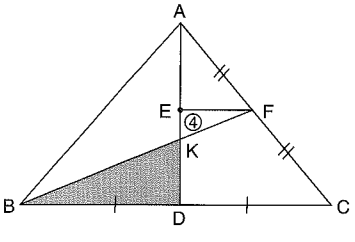
G, center of gravity ABC triangle's

$A(AEGD) = 10\ br^2$

$\Rightarrow A(ABC) = ?$

A) 5 B) 10 C) 15 D) 30 E) 60

4.



$|AF| = |FC|$

$|BD| = |DC|$

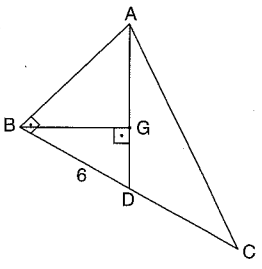
$[EF] \,//\, [BC]$

$A(EKF) = 4\ br^2$

$\Rightarrow A(KBD) = ?$

A) 4 B) 8 C) 12 D) 16 E) 20

5.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$[AB] \perp [BC]$

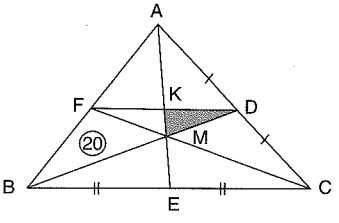
$[BG] \perp [AD]$

$|BD| = 6\ br$

$\Rightarrow A(ABC) = ?$

A) $6\sqrt{3}$ B) $12\sqrt{2}$ C) $12\sqrt{3}$ D) 36 E) $36\sqrt{2}$

6.



$|AD| = |DC|$

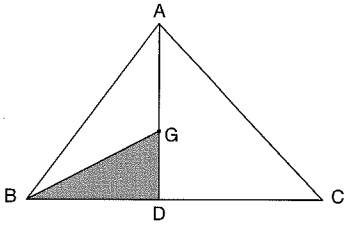
$|BE| = |EC|$

$A(BFM) = 20\ br^2$

$\Rightarrow A(KDM) = ?$

A) 5 B) 10 C) 15 D) 20 E) 40

7.



G, ABC üçgeninin ağırlık merkezi

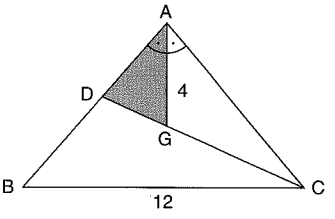
G, center of gravity ABC triangle's

$A(ABC) = 90\ br^2$

$\Rightarrow A(BGD) = ?$

A) 4 B) 5 C) 10 D) 12 E) 15

8.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$m(\widehat{BAG}) = m(\widehat{GAC})$

$|AG| = 4\ br$

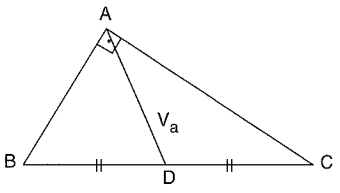
$|BC| = 12\ br$

$\Rightarrow A(ADG) = ?$

A) 2 B) 3 C) 6 D) 9 E) 12

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

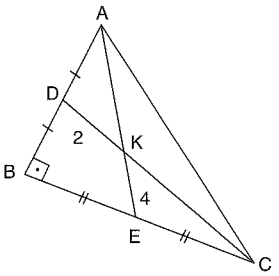
9.



$[BA] \perp [AC]$
$|BD| = |DC|$
$V_b = 4$ br
$V_c = 3$ br
$\Rightarrow |AD| = V_a = ?$

A) $\frac{\sqrt{5}}{2}$ B) $\sqrt{5}$ C) $2\sqrt{5}$ D) 5 E) 10

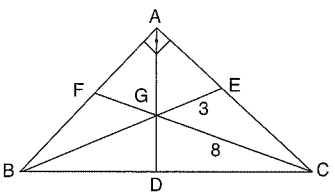
10.



V_b, [AC] kenarına ait kenarortay
V_b, median of [AC]
$[AB] \perp [BC]$
$|AD| = |BD|$
$|BE| = |EC|$
$|DK| = 2$ br
$|KE| = 4$ br
$\Rightarrow V_b = ?$

A) $\sqrt{5}$ B) 6 C) $3\sqrt{5}$ D) 10 E) $10\sqrt{2}$

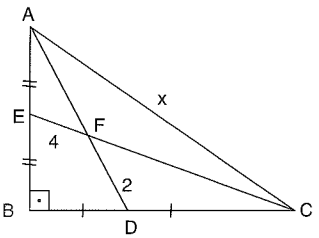
11.



G, ABC üçgeninin ağırlık merkezi
G, center of gravity ABC triangle's
$[BA] \perp [AC]$
$|GE| = 3$ br
$|GC| = 8$ br
$\Rightarrow |BC| = x = ?$

A) $\sqrt{5}$ B) $2\sqrt{5}$ C) $3\sqrt{5}$ D) $6\sqrt{5}$ E) 15

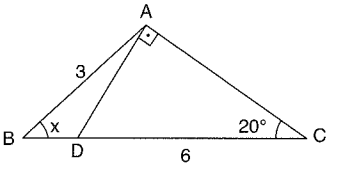
12.



$|AE| = |EB|$
$|BD| = |DC|$
$[AB] \perp [BC]$
$|FD| = 2$ br
$|EF| = 4$ br
$\Rightarrow |AC| = x = ?$

A) 15 B) 12 C) $6\sqrt{5}$ D) 10 E) 20

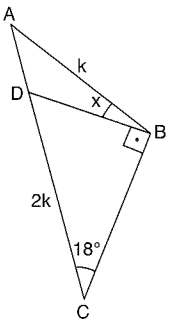
13.



$[DA] \perp [AC]$
$2|AB| = |DC| = 6$ br
$m(\widehat{ACB}) = 20°$
$\Rightarrow m(\widehat{ABC}) = x = ?$

A) 10 B) 20 C) 30 D) 40 E) 50

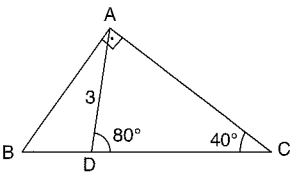
14.



$2|AB| = |DC|$
$[DB] \perp [DC]$
$m(\widehat{ACB}) = 18°$
$\Rightarrow m(\widehat{ABD}) = x = ?$

A) 9 B) 18 C) 36 D) 48 E) 54

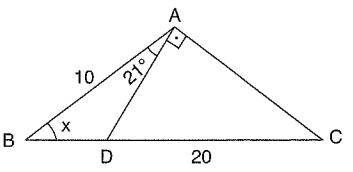
15.



$[BA] \perp [AC]$
$m(\widehat{ADC}) = 80°$
$m(\widehat{ACB}) = 40°$
$|AD| = 3$ br
$\Rightarrow |BC| = ?$

A) 3 B) 6 C) 9 D) 12 E) 15

16.



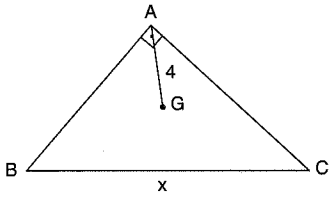
$[DA] \perp [AC]$
$|AB| = 10$ br
$|DC| = 20$ br
$m(\widehat{BAD}) = 21°$
$\Rightarrow m(\widehat{ABC}) = x = ?$

A) 42 B) 43 C) 44 D) 45 E) 46

PUZA YAYINLARI

www.ztcprep.com

1.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

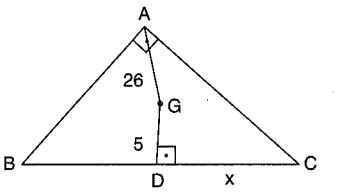
[BA] ⊥ [AC]

|AG| = 4 br

⇒ |BC| = x = ?

A) 12 B) 9 C) 6 D) 4 E) 3

2.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

[BA] ⊥ [AC]

[GD] ⊥ [BC]

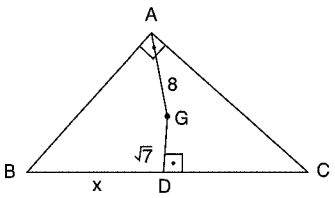
|AG| = 26 br

|GD| = 5 br

⇒ |DC| = x = ?

A) 13 B) 26 C) 39 D) 48 E) 51

3.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

[BA] ⊥ [AC]

[GD] ⊥ [BC]

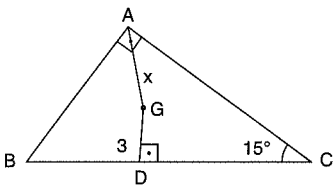
|AG| = 8 br

|GD| = $\sqrt{7}$ br

⇒ |BD| = x = ?

A) 3 B) 6 C) 9 D) 12 E) 16

4.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

[BA] ⊥ [AC]

[GD] ⊥ [BC]

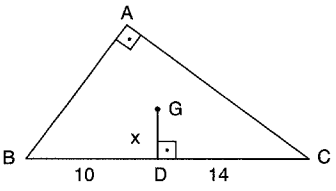
m(ACB) = 15°

|GD| = 3 br

⇒ |AG| = x = ?

A) 12 B) 6 C) $\sqrt{6}$ D) $2\sqrt{3}$ E) $\sqrt{3}$

5.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

[BA] ⊥ [AC]

[GD] ⊥ [BC]

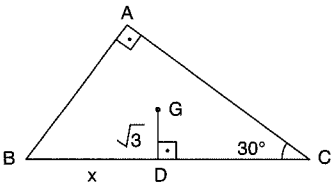
|BD| = 10 br

|DC| = 14 br

⇒ |GD| = x = ?

A) 1 B) 2 C) $\sqrt{3}$ D) 3 E) $2\sqrt{3}$

6.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

[BA] ⊥ [AC]

[GD] ⊥ [BC]

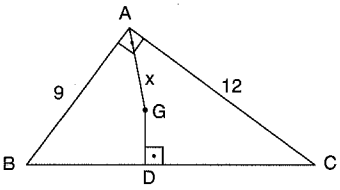
|GD| = $\sqrt{3}$ br

m(ACB) = 30°

⇒ |BD| = x = ?

A) 1 B) 2 C) 5 D) 6 E) 12

7.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

[BA] ⊥ [AC]

[GD] ⊥ [BC]

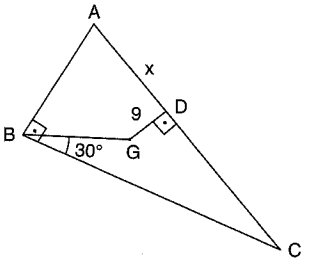
|AB| = 9 br

|AC| = 12 br

⇒ |AG| = x = ?

A) 5 B) $\frac{15}{2}$ C) 15 D) $\frac{5}{2}$ E) $\frac{5}{4}$

8.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

[AB] ⊥ [BC]

[GD] ⊥ [AC]

m(GBC) = 30°

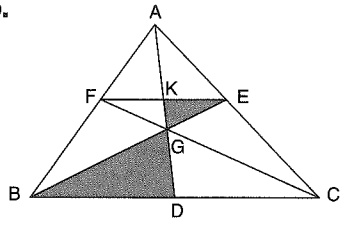
|GD| = 9 br

⇒ |AD| = x = ?

A) $3\sqrt{3}$ B) $6\sqrt{3}$ C) $9\sqrt{3}$ D) $12\sqrt{3}$ E) $15\sqrt{3}$

PUZA YAYINLARI

9.



G, ABC üçgeninin ağırlık merkezi

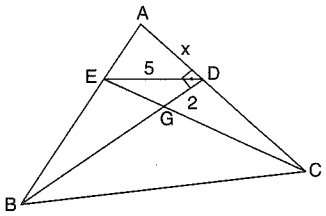
G, center of gravity ABC triangle's

A(KEG)+A(BDG)=15 br^2

$\Rightarrow$ A(ABC) = ?

A) 96 B) 72 C) 54 D) 36 E) 32

10.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

[AD] $\perp$ [BD]

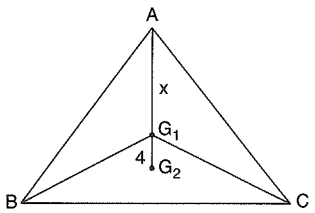
|ED| = 5 br

|GD| = 2 br

$\Rightarrow$ |AD| = x = ?

A) 5 B) 6 C) 8 D) 10 E) 12

11.



G_1, ABC üçgeninin ağırlık merkezi

G_1, center of gravity ABC triangle's

G_2, BCG_1 üçgeninin ağırlık merkezi

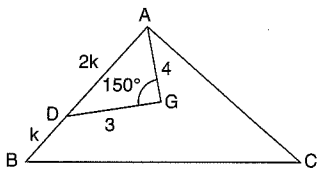
G_2, center of gravity BCG_1 triangle's

$|G_1G_2|$ = 4 br

$\Rightarrow |AG_1| = x = ?$

A) 3 B) 6 C) 9 D) 12 E) 15

12.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$m(\widehat{AGD}) = 150°$

|AD| = 2|DB|

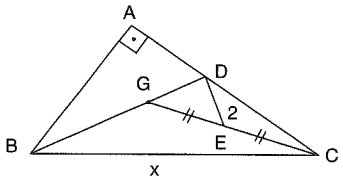
|AG| = 4 br

|DG| = 3 br

$\Rightarrow$ A(ABC) = ?

A) $\frac{15}{2}$ B) 12 C) $\frac{27}{2}$ D) 18 E) 27

13.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

[BA] $\perp$ [AC]

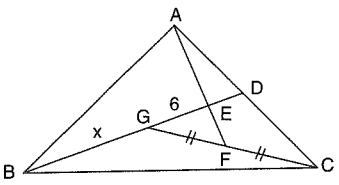
|GE| = |EC|

|DE| = 2br

$\Rightarrow$ |BC| = x = ?

A) 4 B) 6 C) 8 D) 12 E) 15

14.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

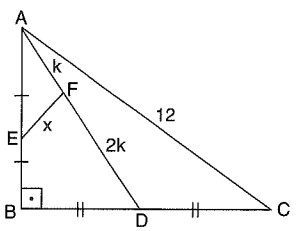
|GF| = |FC|

|GE| = 6 br

$\Rightarrow$ |BG| = x = ?

A) 3 B) 6 C) 9 D) 12 E) 18

15.



[AB] $\perp$ [BC]

|AE| = |EB|

|BD| = |DC|

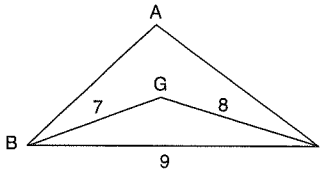
2|AF| = |FD|

|AC| = 12 br

$\Rightarrow$ |EF| = x = ?

A) 1 B) 2 C) 4 D) 6 E) 12

16.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

|BG| = 7 br

|GC| = 8 br

|BC| = 9 br

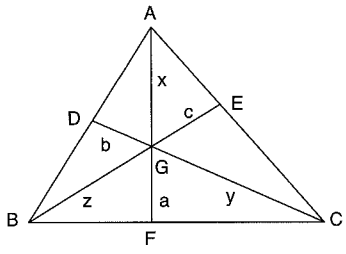
$\Rightarrow$ A(ABC) = ?

A) $6\sqrt{5}$ B) $12\sqrt{5}$ C) $24\sqrt{5}$ D) $36\sqrt{5}$ E) $72\sqrt{5}$

PUZA YAYINLARI

www.ztcprep.com

1.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$|GF| = a$ br

$|GD| = b$ br

$|GE| = c$ br

$a + b + c = 5$ br

$|AG| = x$ br

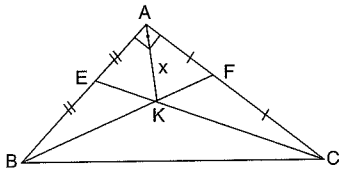
$|GC| = y$ br

$|BG| = z$ br

$\Rightarrow x + y + z = ?$

A) 5 B) 10 C) 15 D) 20 E) 25

2.



$[BA] \perp [AC]$

$|KE| = 3\sqrt{5}$ br

$|KF| = 4\sqrt{5}$ br

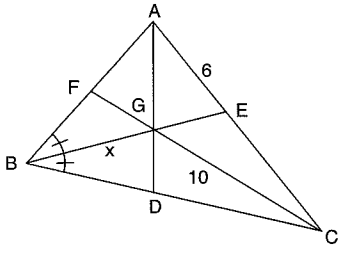
$|AE| = |EB|$

$|AF| = |FC|$

$\Rightarrow |AK| = x = ?$

A) 5 B) 10 C) 15 D) 20 E) 25

3.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$m(\widehat{ABE}) = m(\widehat{EBC})$

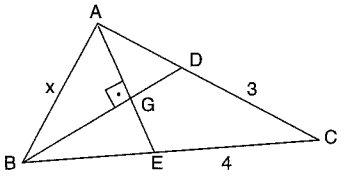
$|GC| = 10$ br

$|AE| = 6$ br

$\Rightarrow |BG| = x = ?$

A) 4 B) 8 C) 12 D) 16 E) 20

4.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$[AG] \perp [BG]$

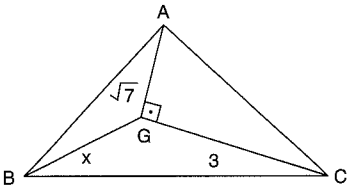
$|DC| = 3$ br

$|EC| = 4$ br

$\Rightarrow |AB| = x = ?$

A) $\sqrt{5}$ B) $2\sqrt{5}$ C) 5 D) $5\sqrt{2}$ E) 10

5.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$[AG] \perp [GC]$

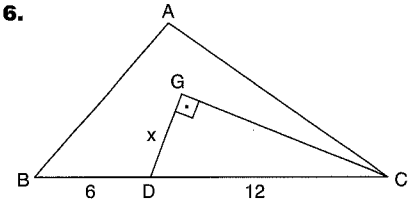
$|AG| = \sqrt{7}$ br

$|GC| = 3$ br

$\Rightarrow |BG| = x = ?$

A) 4 B) 5 C) $\sqrt{20}$ D) 6 E) $2\sqrt{29}$

6.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$[DG] \perp [GC]$

$|AB| = |AC|$

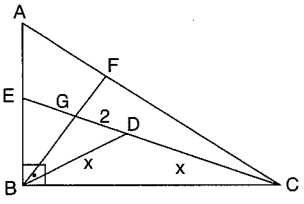
$|BD| = 6$ br

$|DC| = 12$ br

$\Rightarrow |GD| = x = ?$

A) 12 B) 9 C) 8 D) 6 E) 4

7.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

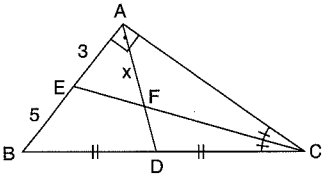
$[AB] \perp [BC]$

$|GD| = 2$ br

$\Rightarrow |BD| = |DC| = x = ?$

A) 2 B) 3 C) 4 D) 5 E) 6

8.



$[BA] \perp [AC]$

$m(\widehat{ACE}) = m(\widehat{ECB})$

$|BD| = |DC|$

$|AE| = 3$ br

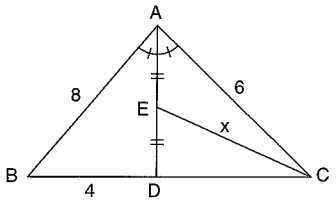
$|EB| = 5$ br

$\Rightarrow |AF| = x = ?$

A) $\frac{10}{3}$ B) $\frac{30}{11}$ C) 2 D) 4 E) 5

PUZA YAYINLARI

9.



$m(\widehat{BAD}) = m(\widehat{DAC})$

$|AE| = |ED|$

$|AB| = 8$ br

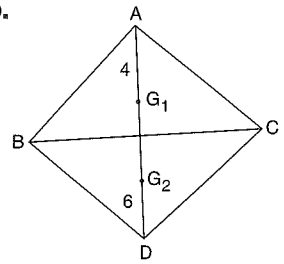
$|AC| = 6$ br

$|BD| = 4$ br

$\Rightarrow |EC| = x = ?$

A) 2 B) 4 C) $\sqrt{10}$ D) $\frac{3\sqrt{6}}{2}$ E) 8

10.



G_1, ABC üçgeninin ağırlık merkezi

G_1 center of gravity ABC triangle's

G_2, BDC üçgeninin ağırlık merkezi

G_2 center of gravity BDC triangle's

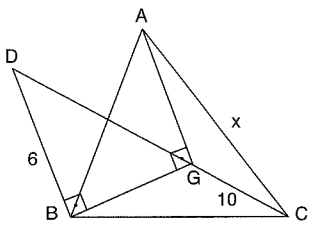
$|AG_1| = 4$ br

$|DG_2| = 6$ br

$\Rightarrow |G_1G_2| = ?$

A) 2 B) 3 C) 5 D) 10 E) 20

11.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$[DB] \perp [BG]$

$[BG] \perp [GA]$

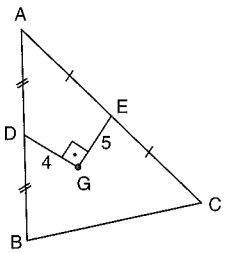
$|DB| = 6$ br

$|GC| = 10$ br

$\Rightarrow |AC| = x = ?$

A) 6 B) $2\sqrt{13}$ C) 8 D) 10 E) $4\sqrt{13}$

12.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

$[DG] \perp [GE]$

$|AD| = |DB|$

$|AE| = |EC|$

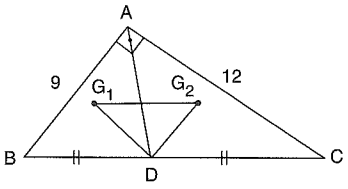
$|DG| = 4$ br

$|GE| = 5$ br

$\Rightarrow A(ABC) = ?$

A) 20 B) 60 C) 80 D) 100 E) 120

13.



G_1, ABD üçgeninin ağırlık merkezi

G_1 center of gravity ABD triangle's

G_2, ADC üçgeninin ağırlık merkezi

G_2 center of gravity ADC triangle's

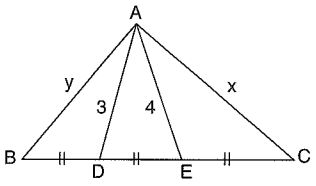
$[BA] \perp [AC]$ $|BD| = |DC|$

$|AB| = 9$ br $|AC| = 12$ br

$\Rightarrow |G_1G_2| = ?$

A) $\frac{15}{4}$ B) 5 C) $\frac{15}{2}$ D) 10 E) 15

14.



$|BD| = |DE| = |EC|$

$|AD| = 3$ br

$|AE| = 4$ br

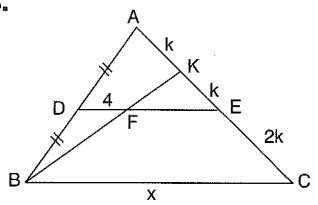
$|AC| = x$

$|AB| = y$

$\Rightarrow x^2 - y^2 = ?$

A) 7 B) 14 C) 21 D) 28 E) 35

15.



$|AD| = |BD|$

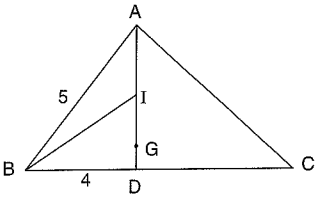
$2|AK| = 2|KE| = |EC|$

$|DF| = 4$ br

$\Rightarrow |BC| = x = ?$

A) 4 B) 8 C) 12 D) 16 E) 24

16.



I, ABC üçgeninin iç teğet çemberinin merkezi

I is the inner tangential circle of ABC triangle

G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

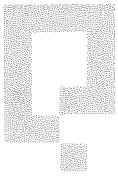
$|AB| = 5$ br $|BD| = 4$ br

$\Rightarrow \frac{|IG|}{|GD|} = ?$

A) $\frac{1}{2}$ B) $\frac{1}{3}$ C) $\frac{2}{3}$ D) 1 E) 2

PUZA YAYINLARI PUZA YAYINLARI PUZA YAYINLARI

ZTC زنگنه مجموعه موسسات



KENARORTAY MEDIAN
Yanıt Anahtarı Answer Key

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	E	D	A	D	E	A	C	D	A	B	D	B	C	D	B

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	C	D	D	C	D	B	B	C	D	D	B	A	A	D	B

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	A	B	D	D	B	C	B	A	B	A	D	E	E	C	B

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	C	D	D	E	A	E	C	B	B	D	B	D	C	B	E

TEST 5

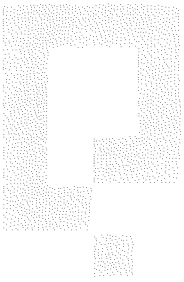
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	E	C	A	E	C	A	E	B	C	D	C	D	E	B	D

TEST 6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	B	D	B	A	D	E	B	D	C	E	E	B	C	E	B

www.ztcprep.com

زنگنه ZTC
مجموعه موسسات

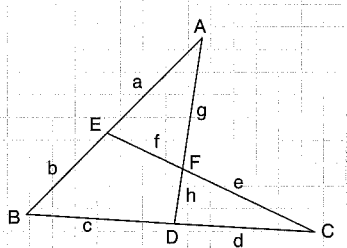


MENELAUS-SEVA
CARNOT-STEWAR

MENELAUS-CEVA
CARNOT-STEWART

www.ztcprep.com

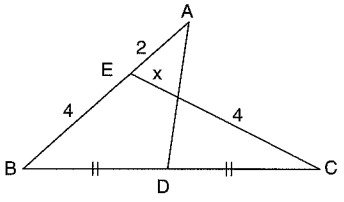
ÖZELLİK | Property 1



$$\frac{a}{a+b}\cdot\frac{c}{d}\cdot\frac{e}{f}=1$$

$$\frac{d}{d+c}\cdot\frac{b}{a}\cdot\frac{g}{h}=1$$

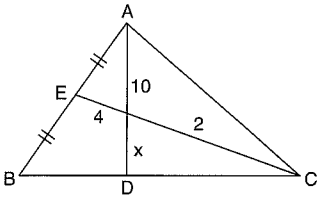
1.



$\Rightarrow x = ?$

$\frac{4}{3}$

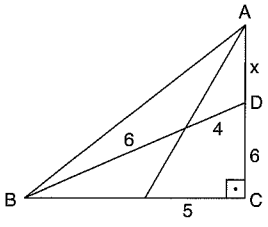
2.



$\Rightarrow x = ?$

2

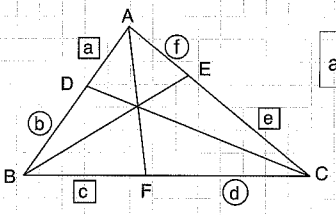
3.



$\Rightarrow x = ?$

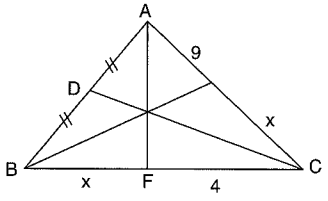
4

ÖZELLİK | Property 2



$$a\cdot c\cdot e = b\cdot d\cdot f$$

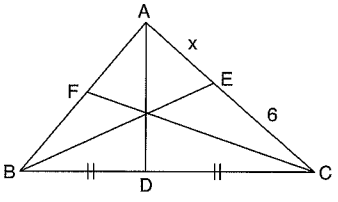
1.



$\Rightarrow x = ?$

6

2.

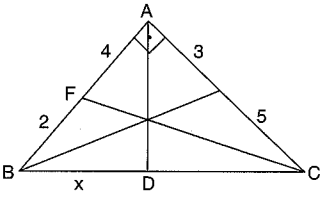


$|AB| = 3|AF|$

$\Rightarrow x = ?$

3

3.

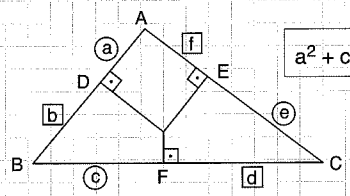


$\Rightarrow x = ?$

$\frac{30}{13}$

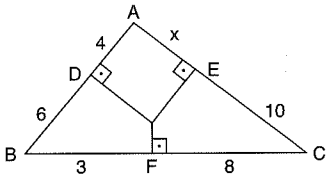
PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

ÖZELLİK/Property 3



$$a^2 + c^2 + e^2 = b^2 + d^2 + f^2$$

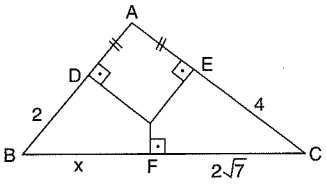
1.



⇒ x = ?

5

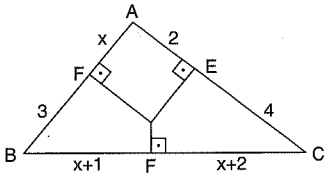
2.



⇒ x = ?

4

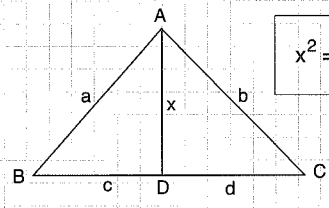
3.



⇒ x = ?

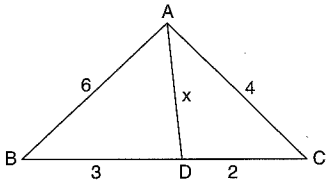
2

ÖZELLİK/Property 4



$$x^2 = \frac{b^2 \cdot c + a^2 \cdot d}{(c+d)} - c \cdot d$$

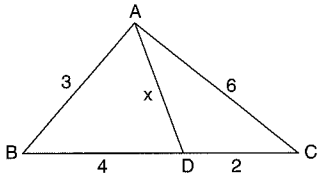
1.



⇒ x = ?

3√2

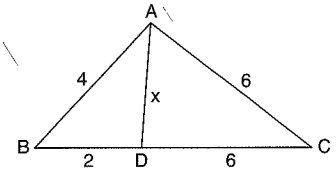
2.



⇒ x = ?

√19

3.

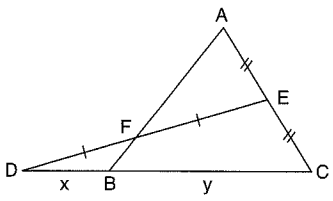


⇒ x = ?

3

PUZA YAYINLARI

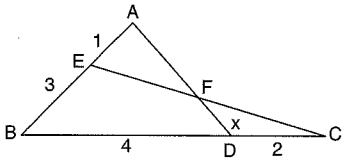
1.



$|AE| = |EC|$
$|DF| = |FE|$
$|DB| = x$
$|BC| = y$
$\Rightarrow \frac{x}{y} = ?$

A) $\frac{1}{4}$ B) $\frac{1}{2}$ C) 1 D) 2 E) 4

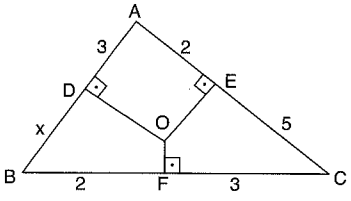
2.



$|EA| = 1$ br
$|EB| = 3$ br
$|BD| = 4$ br
$|DC| = 2$ br
$|AD| = 5$ br
$\Rightarrow |FD| = x = ?$

A) $\frac{2}{5}$ B) $\frac{5}{4}$ C) $\frac{5}{2}$ D) $\frac{8}{5}$ E) $\frac{8}{7}$

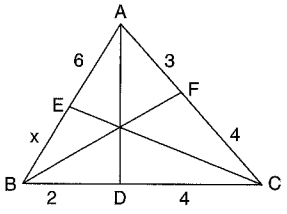
3.



$[OD] \perp [AB]$
$[OE] \perp [AC]$
$[OF] \perp [BC]$
$|AD| = 3$ br
$|AE| = 2$ br
$|FC| = 3$ br
$|BF| = 2$ br
$|EC| = 5$ br
$\Rightarrow |DB| = x = ?$

A) 4 B) 5 C) $4\sqrt{2}$ D) $4\sqrt{3}$ E) 8

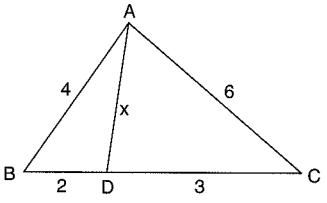
4.



$|BD| = 2$ br
$|AF| = 3$ br
$|DC| = |FC| = 4$ br
$|AE| = 6$ br
$\Rightarrow |BE| = x = ?$

A) 2 B) 3 C) 4 D) 6 E) 12

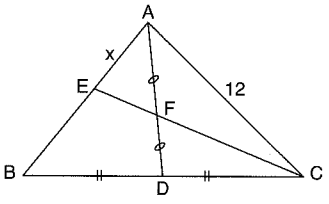
5.



$|BD| = 2$ br
$|DC| = 3$ br
$|AB| = 4$ br
$|AC| = 6$ br
$\Rightarrow |AD| = x = ?$

A) $\sqrt{6}$ B) $2\sqrt{3}$ C) $\sqrt{14}$ D) $3\sqrt{2}$ E) 5

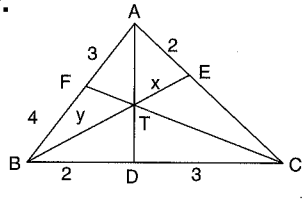
6.



ABC eşkenar üçgen
ABC, equilateral triangle
$|AC| = 12$ br
$|AF| = |FD|$
$|BD| = |DC|$
$\Rightarrow |AE| = x = ?$

A) 4 B) 6 C) 8 D) 9 E) 10

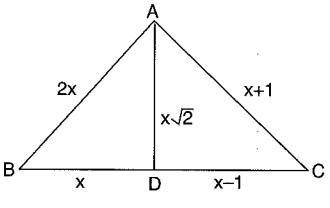
7.



$|AE| = |BD| = 2$ br
$|BF| = 4$ br
$|AF| = |DC| = 3$ br
$|ET| = x$
$|BT| = y$
$\Rightarrow \frac{x}{y} = ?$

A) $\frac{1}{3}$ B) $\frac{1}{2}$ C) 1 D) 2 E) 3

8.

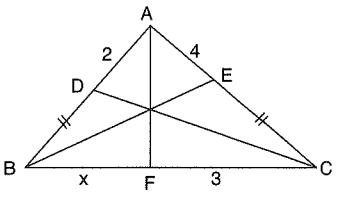


$|AB| = 2|BD| = 2x$
$|AC| = x + 1$
$|DC| = x - 1$
$|AD| = x\sqrt{2}$
$\Rightarrow x = ?$

A) 2 B) 3 C) 4 D) 5 E) 6

PUZA YAYINLARI

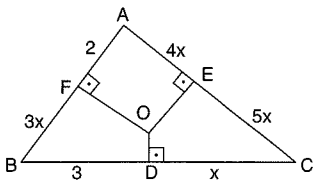
9.



$|EC| = |BD| = 2$ br
$|AE| = 4$ br
$|FC| = 3$ br
$\Rightarrow |BF| = x = ?$

A) 2 B) 3 C) 4 D) 6 E) 12

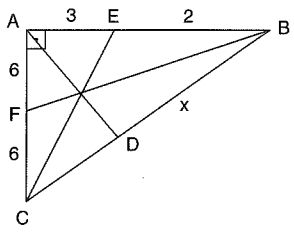
10.



$[OE] \perp [AC]$
$[OF] \perp [AB]$
$[OD] \perp [BC]$
$|BF| = 3x$
$|AE| = 4x$
$|EC| = 5x$
$|AF| = 2$ br
$|BD| = 3$ br
$\Rightarrow |DC| = x = ?$

A) 2 B) 3 C) $\sqrt{6}$ D) $\sqrt{11}$ E) $\sqrt{13}$

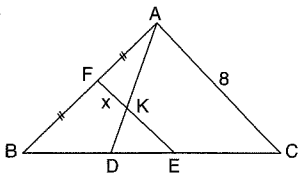
11.



$[BA] \perp [AC]$
$|AF| = |FC| = 6$ br
$|AE| = 3$ br
$|EB| = 2$ br
$\Rightarrow |DB| = x = ?$

A) 1 B) $\frac{13}{5}$ C) 3 D) $\frac{26}{5}$ E) $\frac{35}{3}$

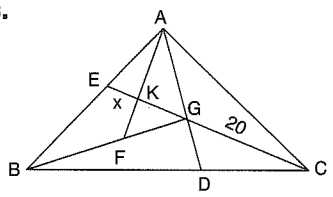
12.



$|BF| = |FA|$
$|AC| = 8$ br
$3|BD| = 6|DE| = 2|EC|$
$\Rightarrow |FK| = x = ?$

A) $\frac{1}{3}$ B) $\frac{3}{4}$ C) 1 D) 2 E) 3

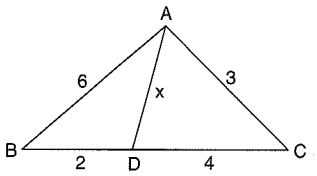
13.



G, ABC üçgeninin ağırlık merkezi
G, center of gravity ABC triangle's
$2|BF| = |EG| = |FG|$
$|GC| = 20$ br
$\Rightarrow |EK| = x = ?$

A) 1 B) 2 C) 4 D) 8 E) 6

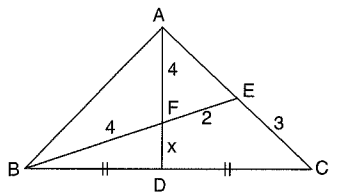
14.



$|AC| = 3$ br
$|AB| = 6$ br
$|BD| = 2$ br
$|DC| = 4$ br
$\Rightarrow |AD| = x = ?$

A) $\sqrt{19}$ B) 4 C) $2\sqrt{3}$ D) $2\sqrt{2}$ E) 12

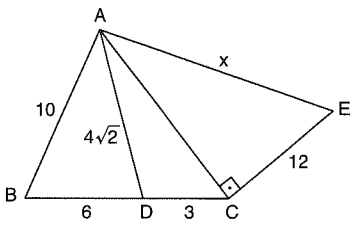
15.



$|BD| = |DC|$
$|AF| = |BF| = 4$ br
$|EF| = 2$ br
$|EC| = 3$ br
$\Rightarrow |FD| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 6

16.



$[AC] \perp [CE]$
$|AD| = 4\sqrt{2}$ br
$|AB| = 10$ br
$|DC| = 3$ br
$|EC| = 12$ br
$|BD| = 6$ br
$\Rightarrow |AE| = x = ?$

A) $\sqrt{29}$ B) $\sqrt{30}$ C) 6 D) 10 E) 13

PUZA YAYINLARI

ZTC زنگنه مجموعه موسسات

MENELAUS-SEVA-CARNOT-STEWART Yanıt Anahtarı

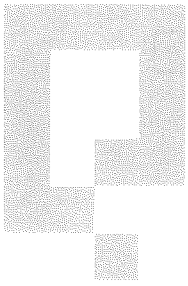
MENELAUS-CEVA-CARNOT-STEWART Answer Key

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	C	B	C	D	A	B	B	D	E	D	D	B	A	B	E

www.ztcprep.com

ZTC زنگنه
مجموعه موسسات



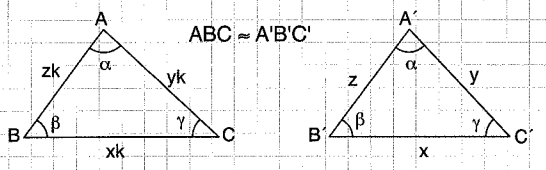
ÜÇGENDE BENZERLİK
TRIANGLE SIMILARITIES

www.ztcprep.com

ÖZELLİK|Property 1

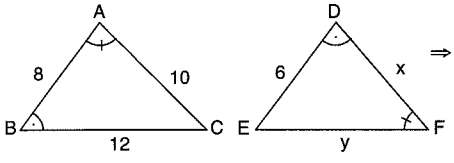
Açı-Açı-Açı Benzerliği

Angle-Angle-Angle Similarity



$$\frac{Ç(ABC)}{Ç(A'B'C')} = \frac{h_a}{h_{a'}} = \frac{V_b}{V_{b'}} = \frac{n_C}{n_{C'}} = k, \quad \frac{A(ABC)}{A(A'B'C')} = k^2$$

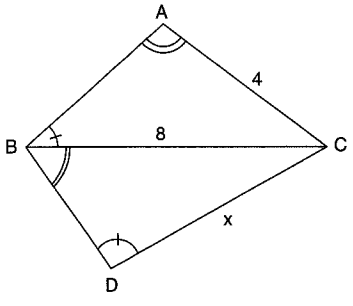
1.



$\Rightarrow x + y = ?$

9

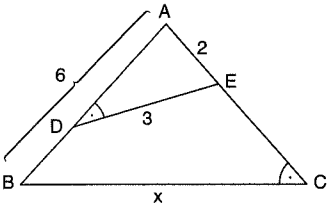
2.



$\Rightarrow x = ?$

16

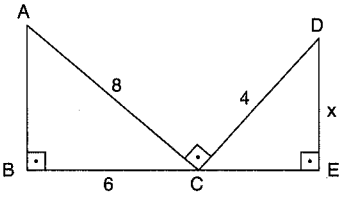
3.



$\Rightarrow x = ?$

9

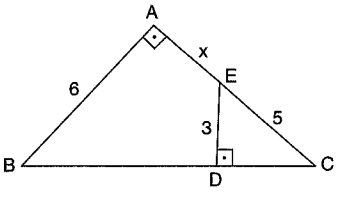
4.



$\Rightarrow x = ?$

3

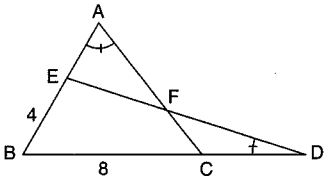
5.



$\Rightarrow x = ?$

3

6.

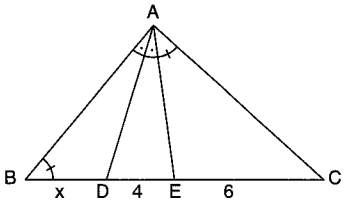


$|ED| = 10$ br

$\Rightarrow |AC| = ?$

20

7.



$\Rightarrow x = ?$

$\frac{20}{3}$

PUZA YAYINLARI

ZTC Properties

ÖZELLİK | Property 2

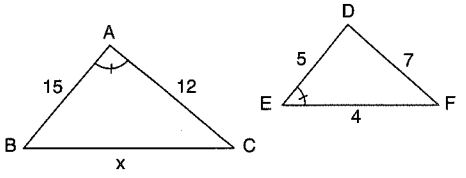
Kenar-Açı-Kenar Benzerliği

Line-Angle-Line Similarity



$$\frac{Ç(ABC)}{Ç(DEF)} = \frac{xk}{x} = \frac{yk}{y} = \frac{|BC|}{|EF|} = k$$

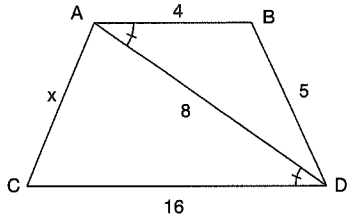
1.



⇒ x = ?

21

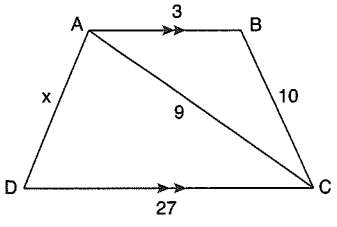
2.



⇒ x = ?

10

3.

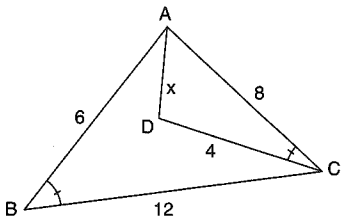


[AB] // [CD]

⇒ x = ?

30

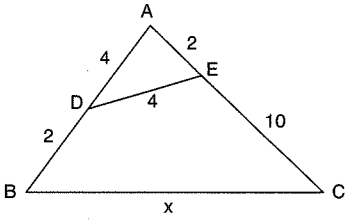
4.



⇒ x = ?

16/3

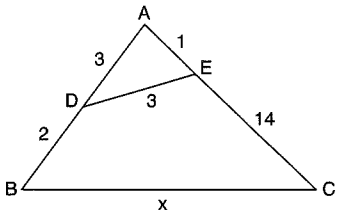
5.



⇒ x = ?

12

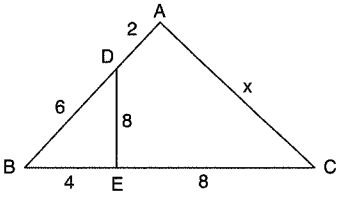
6.



⇒ x = ?

15

7.



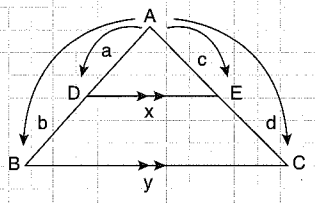
⇒ x = ?

16

PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK | Property 3

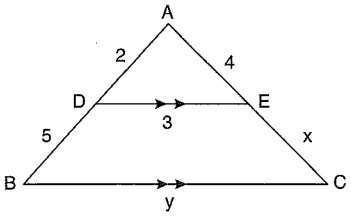


[DE] // [BC]

$$\frac{a}{b}=\frac{c}{d}$$

$$\frac{a}{a+b}=\frac{x}{y}=\frac{c}{c+d}$$

1.

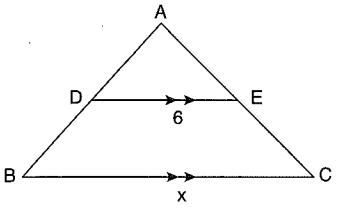


[DE] // [BC]

$\Rightarrow x + y = ?$

$\frac{41}{2}$

2.



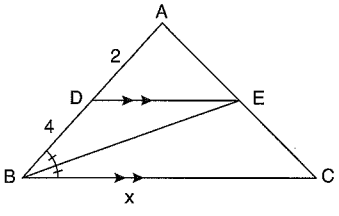
[DE] // [EC]

$|AD| = 2|BD|$

$\Rightarrow x = ?$

9

3.

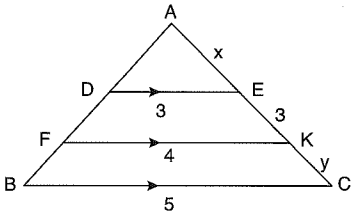


[DE] // [BC]

$\Rightarrow x = ?$

12

4.

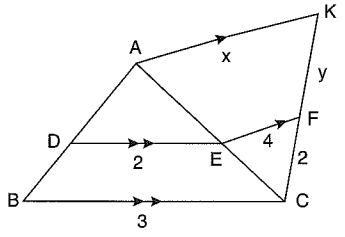


[DE] // [FK] // [BC]

$\Rightarrow x - y = ?$

6

5.



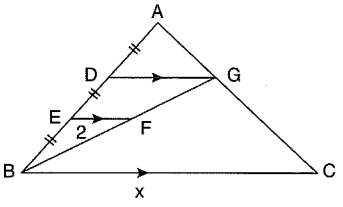
[DE] // [BC]

[EF] // [AK]

$\Rightarrow x - y = ?$

8

6.

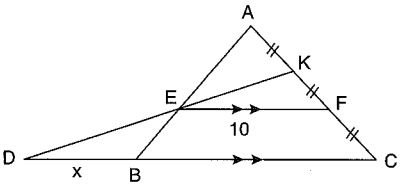


[DG] // [EF] // [BC]

$\Rightarrow x = ?$

12

7.



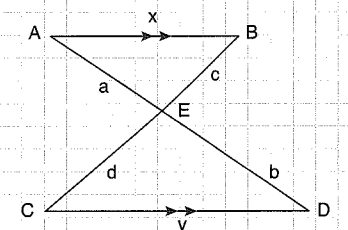
[EF] // [DC]

$\Rightarrow x = ?$

5

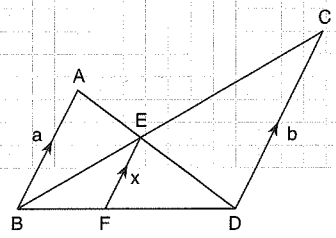
PUZA YAYINLARI

ÖZELLİK/Property 4



[AB] // [CD]

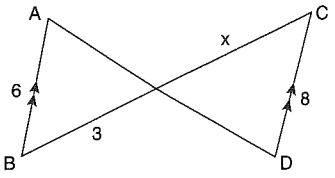
$$\frac{x}{y}=\frac{a}{b}=\frac{c}{d}$$



[AB] // [EF] // [CD]

$$\frac{1}{x}=\frac{1}{a}+\frac{1}{b}$$

1.

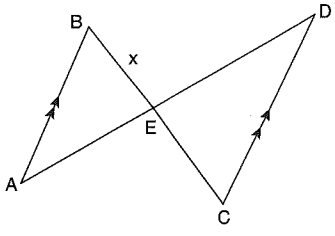


[AB] // [CD]

⇒ x = ?

4

2.



[AB] // [CD]

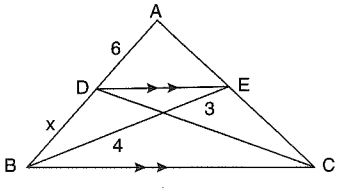
|ED| = 3|AE|

|BC| = 16 br

⇒ x = ?

4

3.

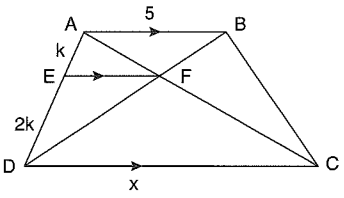


[DE] // [BC]

⇒ x = ?

2

4.

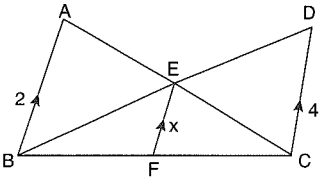


[AB] // [CD] // [EF]

⇒ x = ?

10

5.

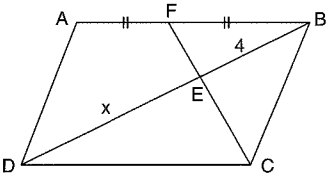


[AB] // [EF] // [CD]

⇒ x = ?

$\frac{4}{3}$

6.



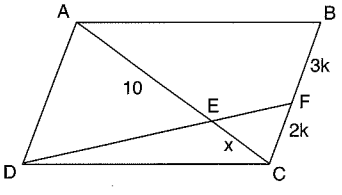
ABCD paralelkenar

ABCD parallelogram

⇒ x = ?

8

7.



ABCD paralelkenar

ABCD parallelogram

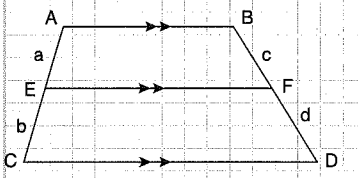
⇒ x = ?

4

PUZA YAYINLARI

ZTC زنگنه مجموعه موسسات Özellikler

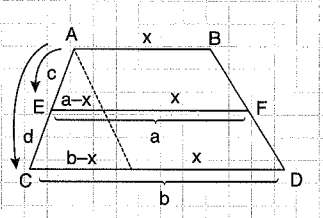
ÖZELLİK|Property 5



[AB] // [EF] // [CD]

$$\frac{a}{b} = \frac{c}{d}$$

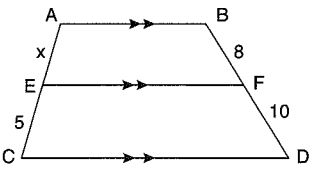
ÖZELLİK|Property 6



[AB] // [EF] // [CD]

$$\frac{c}{c+d} = \frac{a-x}{b-x}$$

1.

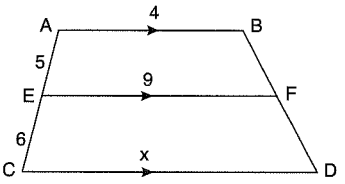


[AB] // [EF] // [CD]

⇒ x = ?

4

1.

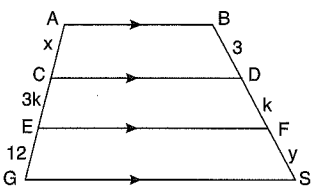


[AB] // [EF] // [CD]

⇒ x = ?

15

2.

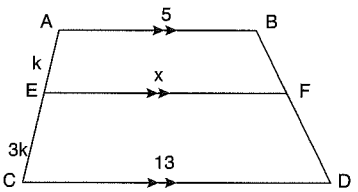


[AB] // [CD] // [EF] // [GS]

⇒ y – x = ?

– 5

2.

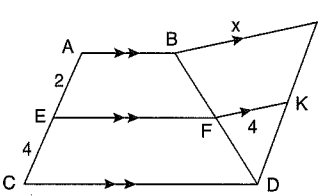


[AB] // [EF] // [CD]

⇒ x = ?

7

3.



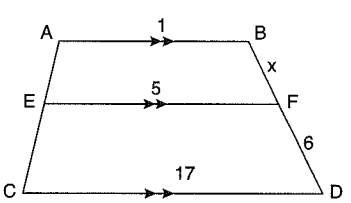
[BM] // [FK]

[AB] // [EF] // [CD]

⇒ x = ?

6

3.



[AB] // [EF] // [CD]

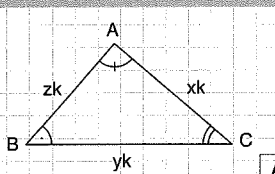
⇒ x = ?

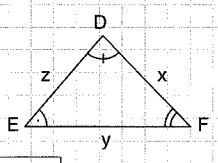
2

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK | Property 7



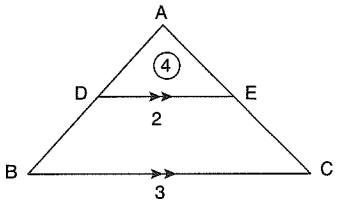


$$\frac{A(ABC)}{A(DEF)} = k^2$$

Benzerlik oranının karesi alanları oranını verir.

The square of the similarity ratio gives the ratio of the areas.

1.

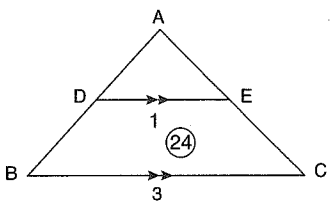


[DE] // [BC]

⇒ A(DECB) = ?

5

2.

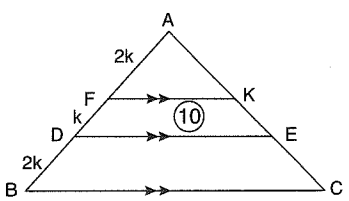


[DE] // [BC]

⇒ A(ADE) = ?

3

3.

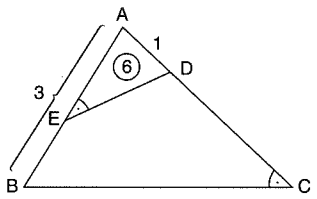


[FK] // [DE] // [BC]

A(DECB) = ?

32

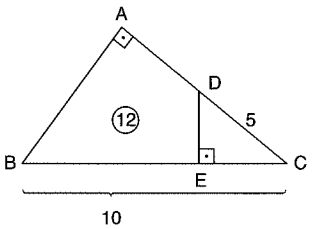
4.



⇒ A(EDCB) = ?

48

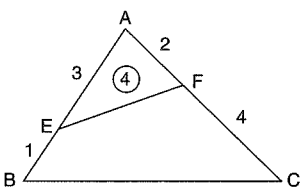
5.



⇒ A(DEC) = ?

4

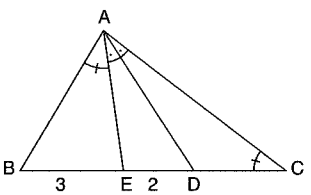
6.



⇒ A(EFCB) = ?

12

7.

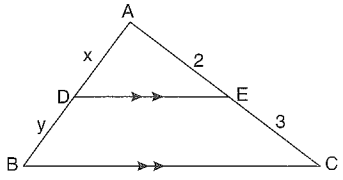


$$\Rightarrow \frac{A(ABE)}{A(ABC)} = ?$$

$\frac{9}{25}$

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

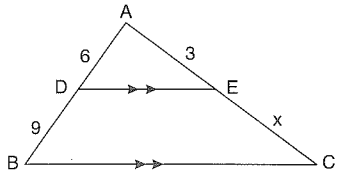
1.



[DE] // [BC]
|AE| = 2 br
|EC| = 3 br
|AD| = x
|DB| = y
$\Rightarrow \frac{x}{y} = ?$

A) $\frac{1}{3}$ B) $\frac{2}{3}$ C) 1 D) $\frac{3}{2}$ E) 3

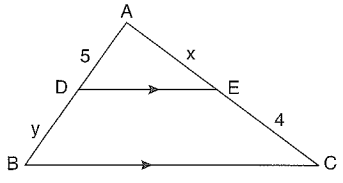
2.



[DE] // [BC]
|AE| = 3 br
|AD| = 6 br
|DB| = 9 br
⇒ |EC| = x = ?

A) 2 B) 3 C) $\frac{9}{2}$ D) $\frac{11}{2}$ E) 6

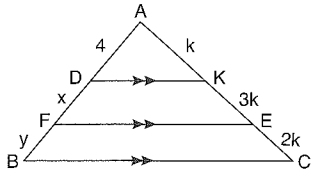
3.



[DE] // [BC]
|AD| = 5 br
|EC| = 4 br
|AE| = x
|DB| = y
⇒ x · y = ?

A) 2 B) 4 C) 5 D) 10 E) 20

4.

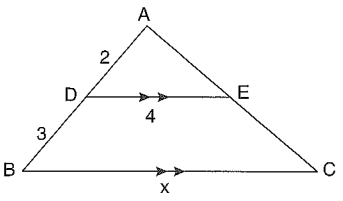


[DK] // [FE] // [BC]
6|AK| = 2|KE| = 3|EC|
|AD| = 4 br
|FD| = x
|BF| = y
⇒ x + y = ?

A) 4 B) 6 C) 8 D) 12 E) 20

PUZA YAYINLARI

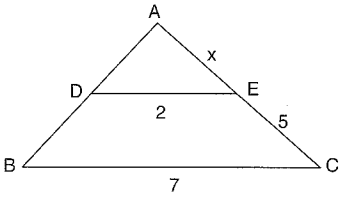
5.



[DE] // [BC]
2|AD| = |DE| = 4 br
|BD| = 3 br
⇒ |BC| = x = ?

A) 5 B) 6 C) 8 D) 10 E) 12

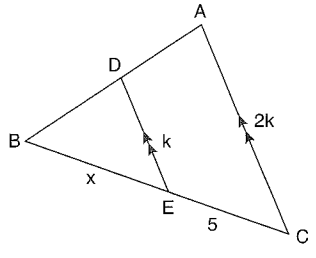
6.



[DE] // [BC]
|DE| = 2 br
|EC| = 5 br
|BC| = 7 br
⇒ |AE| = x = ?

A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3

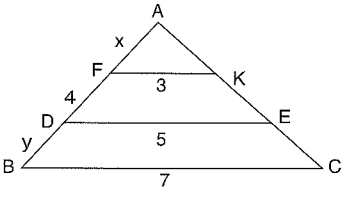
7.



[DE] // [AC]
2|DE| = |AC|
|EC| = 5 br
⇒ |BE| = x = ?

A) 2 B) $\frac{3}{2}$ C) 5 D) $\frac{5}{2}$ E) 10

8.



[FK] // [DE] // [BC]
|FK| = 3 br
|DE| = 5 br
|BC| = 7 br
|FD| = 4 br
|AF| = x
|BD| = y
⇒ x + y = ?

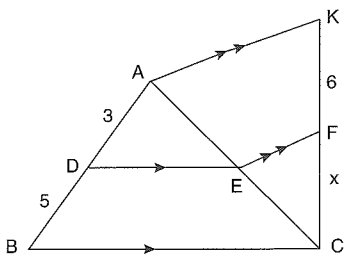
A) 10 B) 8 C) 7 D) 5 E) 4

PUZA YAYINLARI

PUZA YAYINLARI

www.ztcprep.com

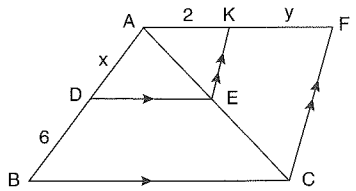
9.



[DE] // [BC]
[EF] // [AK]
$2|AD| = |KF| = 6$ br
$|BD| = 5$ br
$\Rightarrow |FC| = x = ?$

A) $\frac{5}{2}$ B) 5 C) $\frac{15}{2}$ D) 10 E) 15

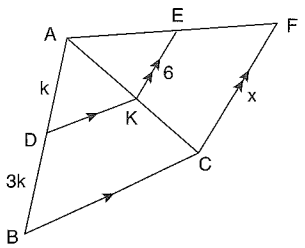
10.



[DE] // [BC]
[KE] // [FC]
$|AK| = 2$ br
$|BD| = 6$ br
$|AD| = x$
$|KF| = y$
$\Rightarrow x \cdot y = ?$

A) 12 B) 8 C) 6 D) 3 E) 2

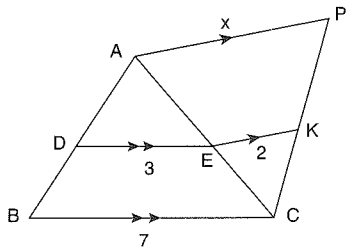
11.



[DK] // [BC]
[KE] // [FC]
$3|AD| = |BD|$
$|KE| = 6$ br
$\Rightarrow |CF| = x = ?$

A) 9 B) 12 C) 18 D) 24 E) 30

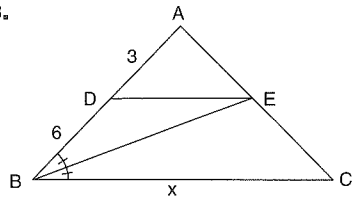
12.



[DE] // [BC]
[EK] // [AP]
$|DE| = 3$ br
$|BC| = 7$ br
$|EK| = 2$ br
$\Rightarrow |AP| = x = ?$

A) $\frac{7}{4}$ B) $\frac{7}{2}$ C) 7 D) 14 E) 21

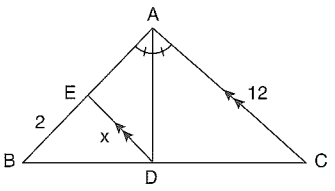
13.



[DE] // [BC]
$2|AD| = |BD| = 6$ br
$\Rightarrow |BC| = x = ?$

A) 3 B) 6 C) 9 D) 12 E) 18

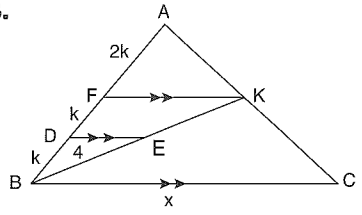
14.



[DE] // [AC]
$m(\widehat{BAD}) = m(\widehat{DAC})$
$|EB| = 2$ br
$|AC| = 12$ br
$\Rightarrow |ED| = x = ?$

A) 2 B) 3 C) 4 D) 5 E) 6

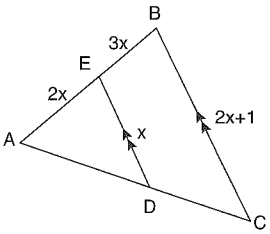
15.



[FK] // [DE] // [BC]
$|AF| = 2|DF| = 2|BD|$
$|DE| = 4$ br
$\Rightarrow |BC| = x = ?$

A) 2 B) 4 C) 8 D) 16 E) 32

16.



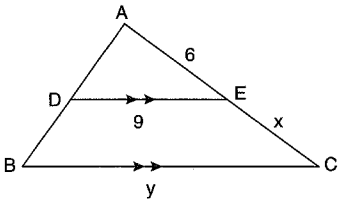
[ED] // [BC]
$|EB| = 3x$
$|AE| = 2x$
$|ED| = x$
$|BC| = 2x + 1$
$\Rightarrow x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

PUZA YAYINLARI

www.ztcprep.com

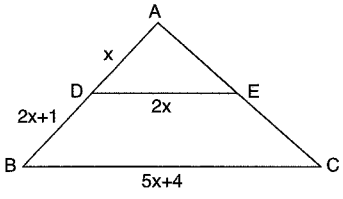
1.



[DE] // [BC]
4|AD| = 3|DB|
|AE| = 6 br
|DE| = 9 br
|EC| = x
|BC| = y
⇒ y – x = ?

A) 21 B) 18 C) 15 D) 13 E) 18

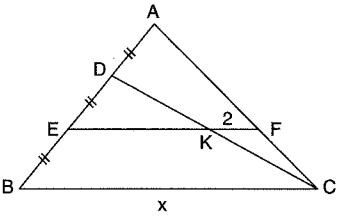
2.



[DE] // [BC]
|AD| = x
|BD| = 2x + 1
|DE| = 2x
|BC| = 5x + 4
⇒ |DE| = ?

A) 1 B) 2 C) 4 D) 6 E) 8

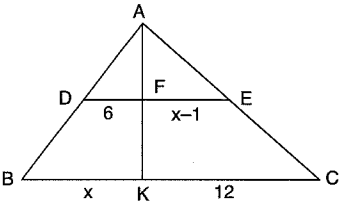
3.



[EF] // [BC]
|AD| = |DE| = |EB|
|KF| = 2 br
⇒ |BC| = x = ?

A) 5 B) 6 C) 8 D) 12 E) 16

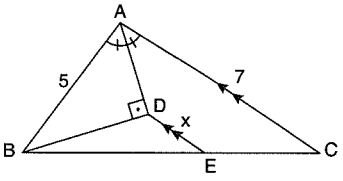
4.



[DE] // [BC]
2|DF| = |KC| = 12 br
|BK| = x
|FE| = x – 1
⇒ x = ?

A) 1 B) 3 C) 6 D) 9 D) 12

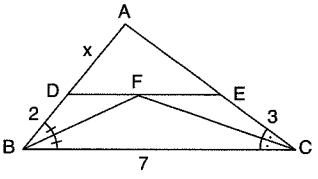
5.



m(BAD) = m(DAC)
[AD] ⊥ [BD]
[DE] // [AC]
|AB| = 5 br
|AC| = 7 br
⇒ |DE| = x = ?

A) 1 B) 2 C) 3 D) 4 E) 5

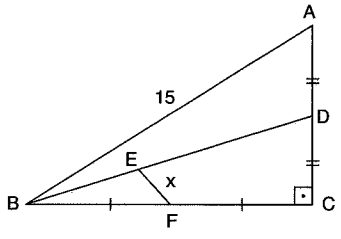
6.



[DE] // [BC]
m(ABF) = m(FBC)
m(BCF) = m(FCA)
|EC| = 3 br
|BD| = 2 br
|BC| = 7 br
⇒ |AD| = x = ?

A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 5

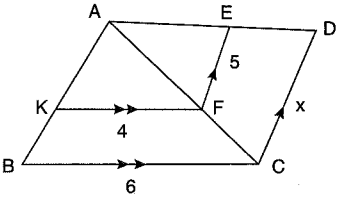
7.



[AC] ⊥ [BC]
|AD| = |DC|
|BF| = |FC|
2|BE| = |ED|
|AB| = 15 br
⇒ |EF| = x = ?

A) $\frac{5}{2}$ B) 5 C) $\frac{15}{2}$ D) 10 E) $\frac{25}{2}$

8.

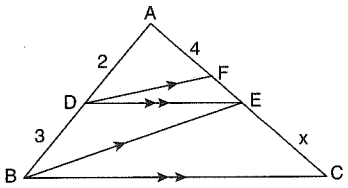


[EF] // [DC]
[KF] // [BC]
|KF| = 4 br
|BC| = 6 br
|EF| = 5 br
⇒ |DC| = x = ?

A) $\frac{7}{3}$ B) 3 C) $\frac{10}{3}$ D) 4 E) $\frac{15}{2}$

PUZA YAYINLARI

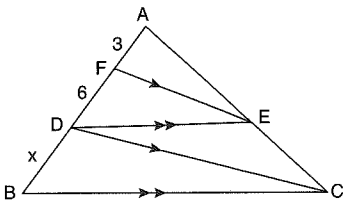
9.



[DE] // [BC]
[DF] // [BE]
$2|AD| = |AF| = 4$ br
$|BD| = 3$ br
$\Rightarrow |EC| = x = ?$

A) 20 B) 15 C) 10 D) 5 E) 1

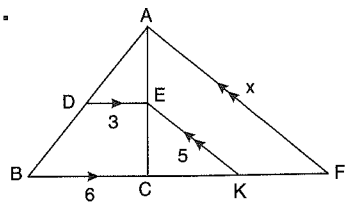
10.



[FE] // [DC]
[DE] // [BC]
$2|AF| = |DF| = 6$ br
$\Rightarrow |BD| = x = ?$

A) 24 B) 18 C) 15 D) 12 E) 6

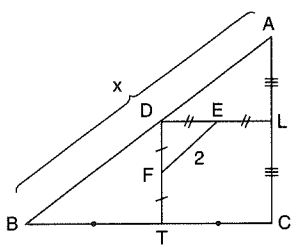
11.



[DE] // [BC]
[EK] // [AF]
$2|DE| = |BC| = 6$ br
$|EK| = 5$ br
$\Rightarrow |AF| = x = ?$

A) 3 B) 5 C) $\frac{15}{2}$ D) 10 E) $\frac{25}{2}$

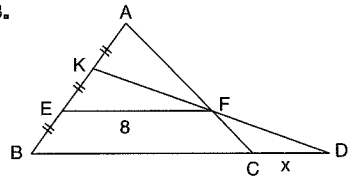
12.



$|AL| = |LC|$
$|BT| = |TC|$
$|DF| = |FT|$
$|DE| = |EL|$
$|EF| = 2$ br
$\Rightarrow |AB| = x = ?$

A) 2 B) 4 C) 6 D) 8 E) 16

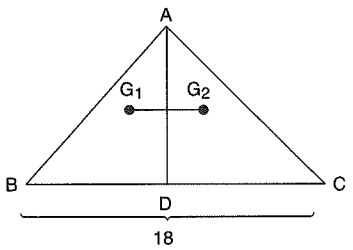
13.



[EF] // [BD]
$|AK| = |KE| = |EB|$
$|EF| = 8$ br
$\Rightarrow |CD| = x = ?$

A) 4 B) 6 C) 8 D) 10 E) 12

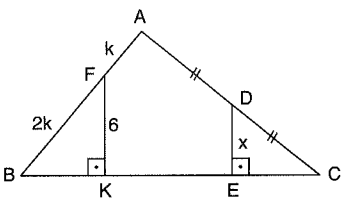
14.



G_1, ABD üçgeninin ağırlık merkezi
G_1, center of gravity of ABD triangle's
G_2, ADC üçgeninin ağırlık merkezi
G_2, center of gravity of ADC triangle's
$|BC| = 18$ br
$\Rightarrow |G_1G_2| = ?$

A) 3 B) 6 C) 9 D) 12 E) 15

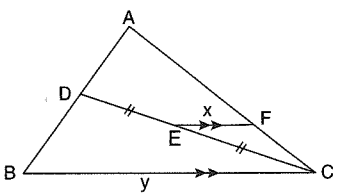
15.



[FK] ⊥ [BC]
[DE] ⊥ [BC]
$|AD| = |DC|$
$2|AF| = |BF|$
$|FK| = 6$ br
$\Rightarrow |DE| = x = ?$

A) 3 B) 4 C) $\frac{9}{2}$ D) 6 E) 9

16.

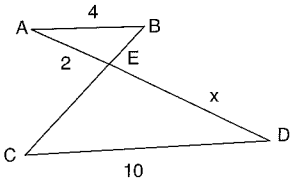


[EF] // [BC]
$2|AD| = 5|BD|$
$|EF| = x$
$|BC| = y$
$\Rightarrow \frac{x}{y} = ?$

A) $\frac{5}{14}$ B) $\frac{5}{7}$ C) $\frac{10}{7}$ D) 3 E) $\frac{13}{4}$

PUZA YAYINLARI

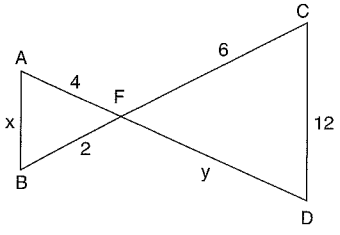
1.



[AB] // [CD]
|AB| = 4 br
|AE| = 2 br
|CD| = 10 br
⇒ |ED| = x = ?

A) 5 B) 4 C) 3 D) 2 E) 1

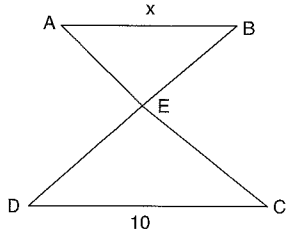
2.



[AB] // [CD]
|AB| = x
|FD| = y
|AF| = 2|BF| = 4 br
|CD| = 2|FC| = 12 br
⇒ x + y = ?

A) 8 B) 10 C) 12 D) 16 E) 20

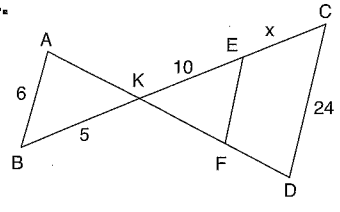
3.



[AB] // [DC]
2|BE| = 3|DE|
|DC| = 10 br
⇒ |AB| = x = ?

A) 20 B) 15 C) $\frac{20}{3}$ D) 5 E) 3

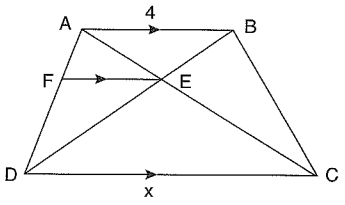
4.



[AB] // [EF] // [CD]
4|AB| = |CD| = 24 br
|BK| = 5 br
|KE| = 10 br
⇒ |EC| = x = ?

A) 2 B) 4 C) 5 D) 6 E) 10

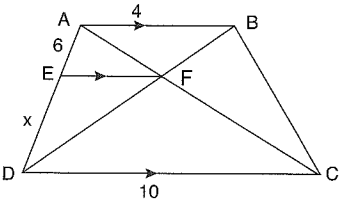
5.



[AB] // [FE] // [DC]
|AB| = 4 br
3|AF| = 2|FD|
⇒ |DC| = x = ?

A) 9 B) 8 C) 6 D) $\frac{8}{3}$ E) $\frac{4}{3}$

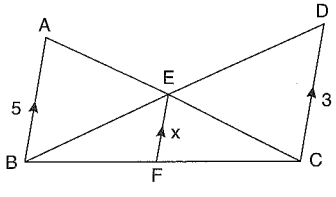
6.



[AB] // [EF] // [DC]
|AB| = 4 br
|AE| = 6 br
|DC| = 10 br
⇒ |ED| = x = ?

A) $\frac{35}{2}$ B) 15 C) 12 D) $\frac{25}{2}$ E) 10

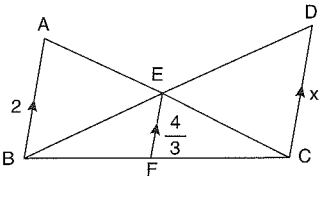
7.



[AB] // [EF] // [CD]
|CD| = 3 br
|AB| = 5 br
⇒ |EF| = x = ?

A) 8 B) 5 C) 2 D) $\frac{15}{8}$ E) $\frac{8}{15}$

8.

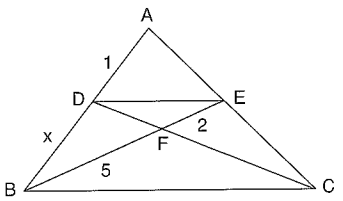


[AB] // [EF] // [DC]
|AB| = 2 br
|EF| = $\frac{4}{3}$ br
⇒ |DC| = x = ?

A) 1 B) 2 C) 3 D) 4 E) 5

PUZA YAYINLARI

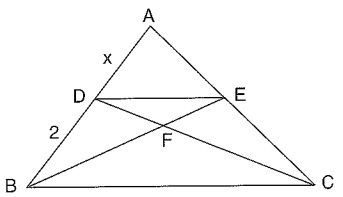
9.



[DE] // [BC]
|AD| = 1 br
|EF| = 2 br
|BF| = 5 br
⇒ |BD| = x = ?

A) 5 B) 4 C) 3 D) $\frac{5}{2}$ E) $\frac{3}{2}$

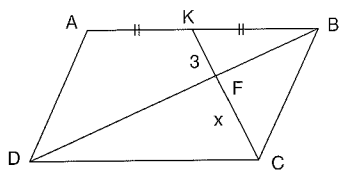
10.



[DE] // [BC]
|BD| = 2 br
4|DF| = 3|FC|
⇒ |AD| = x = ?

A) 10 B) 8 C) 6 D) 4 E) 2

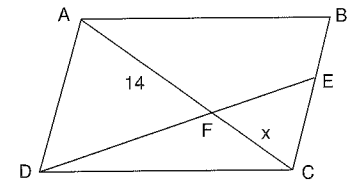
11.



ABCD paralelkenar
ABCD parallelogram
|AK| = |KB|
|KF| = 3 br
⇒ |FC| = x = ?

A) $\frac{1}{3}$ B) 1 C) $\frac{8}{3}$ D) 3 E) 6

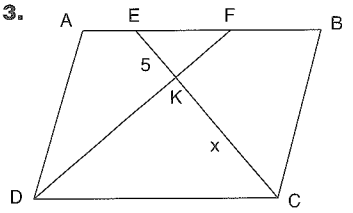
12.



ABCD paralelkenar
ABCD parallelogram
2|BE| = 5|EC|
|AF| = 14 br
⇒ |FC| = x = ?

A) 1 B) 2 C) 4 D) 6 E) 8

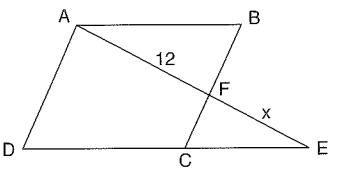
13.



ABCD paralelkenar
ABCD parallelogram
2|AE| = 2|EF| = |FB|
|EK| = 5 br
⇒ |KC| = x = ?

A) $\frac{5}{4}$ B) $\frac{5}{2}$ C) 5 D) 10 E) 20

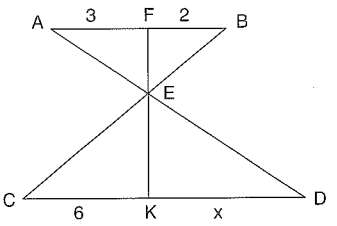
14.



ABCD paralelkenar
ABCD parallelogram
|DC| = 2|CE|
|AF| = 12 br
⇒ |FE| = x = ?

A) 3 B) 6 C) 9 D) 12 E) 24

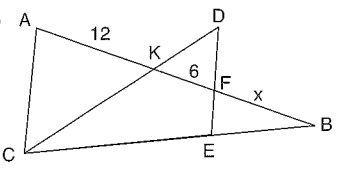
15.



[AB] // [CD]
|AF| = 3 br
|BF| = 2 br
|CK| = 6 br
⇒ |KD| = x = ?

A) 12 B) 9 C) 6 D) 4 E) 2

16.



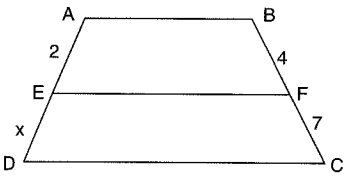
[DE] // [AC]
|DF| = |FE|
|AK| = 2|KF| = 12 br
⇒ |FB| = x = ?

A) 18 B) 12 C) 9 D) 6 E) 3

PUZA YAYINLARI

www.ztcprep.com

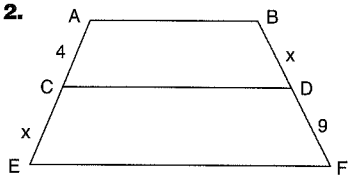
1.



[AB] // [EF] // [DC]
|AE| = 2 br
|BF| = 4 br
|FC| = 7 br
⇒ |ED| = x = ?

A) 21 B) 14 C) 7 D) $\frac{7}{2}$ E) $\frac{7}{4}$

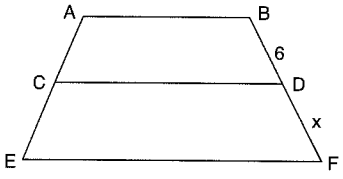
2.



[AB] // [CD] // [EF]
|AC| = 4 br
|DF| = 9 br
⇒|CE| = |BD| = x = ?

A) 1 B) 3 C) 6 D) 9 E) 12

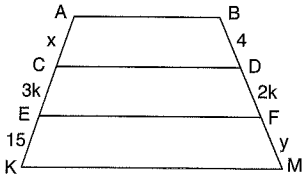
3.



[AB] // [CD] // [EF]
7|AC| = 3|CE|
|BD| = 6 br
⇒ |DF| = x = ?

A) $\frac{1}{7}$ B) $\frac{2}{7}$ C) $\frac{7}{2}$ D) 7 E) 14

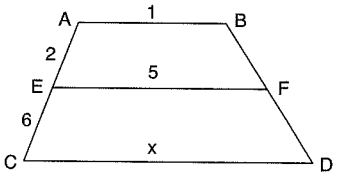
4.



[AB] // [CD] // [EF] // [KM]
|BD| = 4 br
2|CE| = 3|DF|
|EK| = 15 br
|BD| = 4 br
|AC| = x
|FM| = y
⇒ y – x = ?

A) 10 B) 8 C) 6 D) 4 E) 2

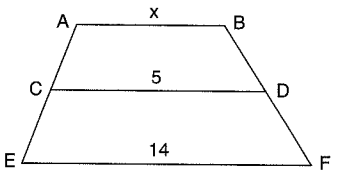
5.



[AB] // [EF] // [CD]
|AB| = 1 br
|EF| = 5 br
|AE| = 2 br
|EC| = 6 br
⇒ |CD| = x = ?

A) 21 B) 17 C) 13 D) 11 E) 7

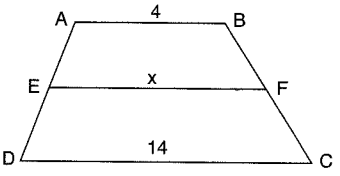
6.



[AB] // [CD] // [EF]
3|AC| = |CE|
|CD| = 5 br
|EF| = 14 br
⇒ |AB| = x = ?

A) 4 B) 3 C) $\frac{7}{2}$ D) 2 E) 1

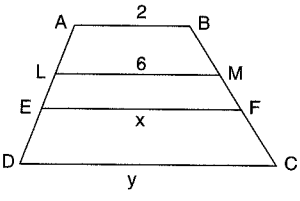
7.



[AB] // [EF] // [DC]
2|BF| = 3|FC|
|AB| = 4 br
|DC| = 14 br
⇒ |EF| = x = ?

A) 5 B) 7 C) 10 D) 12 E) 13

8.

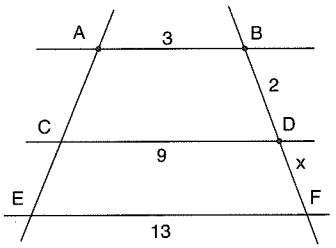


[AB] // [LM] // [EF] // [DC]
3|BM| = 6|MF| = 2|FC|
3|AB| = |LM| = 6 br
|EF| = x
|DC| = y
⇒ y – x = ?

A) 6 B) 5 C) 4 D) 2 E) 1

PUZA YAYINLARI

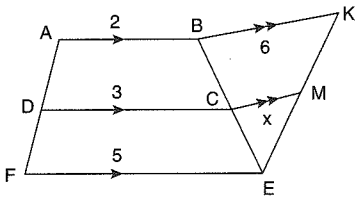
9.



[AB] // [CD] // [EF]
|AB| = 3 br
|CD| = 9 br
|EF| = 13 br
|BD| = 2 br
⇒ |DF| = x = ?

A) 1 B) $\frac{4}{3}$ C) $\frac{5}{3}$ D) 3 E) 4

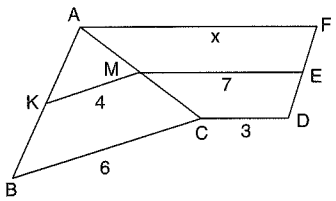
10.



[BK] // [CM]
[AB] // [DC] // [FE]
|AB| = 2 br
|DC| = 3 br
|FE| = 5 br
|BK| = 6 br
⇒ |CM| = x = ?

A) 12 B) 9 C) 6 D) 4 E) 3

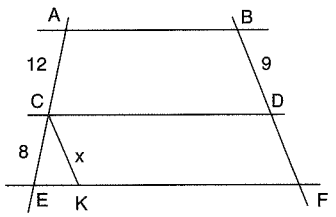
11.



[KM] // [BC]
[AF] // [ME] // [CD]
|KM| = 4 br
|BC| = 6 br
|ME| = 7 br
|CD| = 3 br
⇒ |AF| = x = ?

A) 7 B) 11 C) 13 D) 15 E) 17

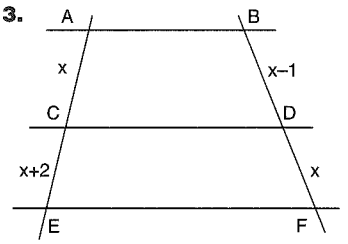
12.



[AB] // [CD] // [EF]
[CK] // [BF]
|AC| = 12 br
|BD| = 9 br
|CE| = 8 br
⇒ |KC| = x = ?

A) 2 B) 4 C) 5 D) 6 E) 8

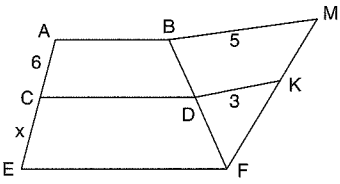
13.



[AB] // [CD] // [EF]
|BD| = x – 1
|CE| = x + 2
⇒ |DF| = |AC| = x = ?

A) 1 B) 2 C) 3 D) 4 E) 5

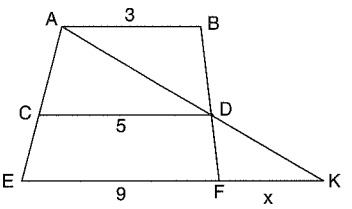
14.



[BM] // [DK]
[AB] // [CD] // [EF]
|BM| = 5 br
|DK| = 3 br
|AC| = 6 br
⇒ |CE| = x = ?

A) 10 B) 9 C) 6 D) $\frac{18}{5}$ E) $\frac{9}{5}$

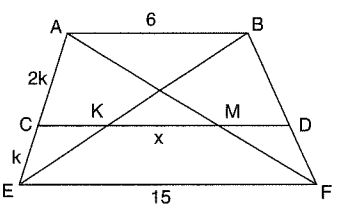
15.



[AB] // [CD] // [EK]
|AB| = 3 br
|CD| = 5 br
|EF| = 9 br
⇒ |FK| = x = ?

A) 6 B) 5 C) 4 D) 3 E) 2

16.



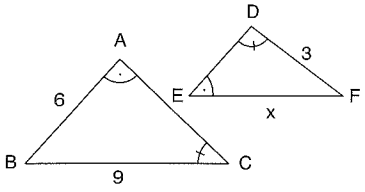
[AB] // [CD] // [EF]
|AC| = 2|CE|
|AB| = 6 br
|EF| = 15 br
⇒ |KM| = x = ?

A) 10 B) 9 C) 8 D) 6 E) 4

PUZA YAYINLARI

www.ztcprep.com

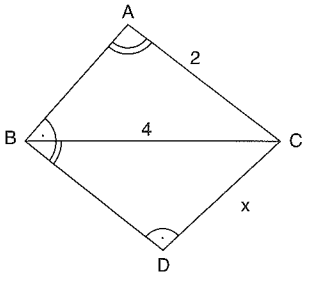
1.



$m(\widehat{A}) = m(\widehat{E})$
$m(\widehat{C}) = m(\widehat{D})$
$|AB| = 6$ br
$|BC| = 9$ br
$|DF| = 3$ br
$\Rightarrow |EF| = x = ?$

A) 1 B) 2 C) 3 D) $\frac{9}{2}$ E) 6

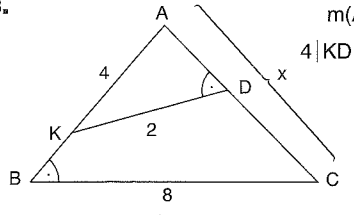
2.



$m(\widehat{BAC}) = m(\widehat{CBD})$
$m(\widehat{ABC}) = m(\widehat{BDC})$
$2|AC| = |BC| = 4$ br
$\Rightarrow |DC| = x = ?$

A) 1 B) 2 C) 4 D) 8 E) 6

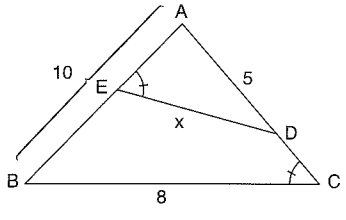
3.



$m(\widehat{ADK}) = m(\widehat{ABC})$
$4|KD| = 2|AK| = |BC| = 8$ br
$\Rightarrow |AC| = x = ?$

A) 16 B) 12 C) 8 D) 4 E) 2

4.

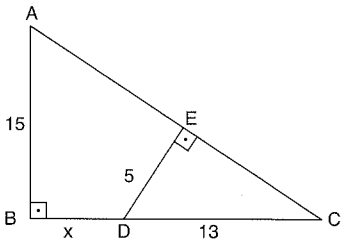


$m(\widehat{AED}) = m(\widehat{ACB})$
$|AB| = 10$ br
$|AD| = 5$ br
$|BC| = 8$ br
$\Rightarrow |ED| = x = ?$

A) 8 B) 6 C) 5 D) 4 E) 2

PUZA YAYINLARI

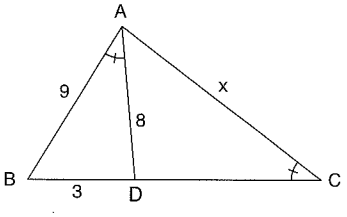
5.



$[AB] \perp [BC]$
$[DE] \perp [AC]$
$|AB| = 15$ br
$|DC| = 13$ br
$|DE| = 5$ br
$\Rightarrow |BD| = x = ?$

A) 39 B) 26 C) 23 D) 11 E) 9

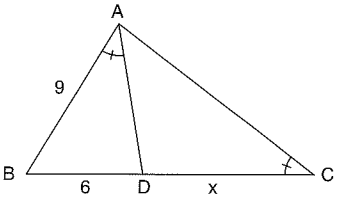
6.



$m(\widehat{BAD}) = m(\widehat{ACB})$
$|AB| = 9$ br
$|AD| = 8$ br
$|BD| = 3$ br
$\Rightarrow |AC| = x = ?$

A) 36 B) 24 C) 21 D) 18 E) 15

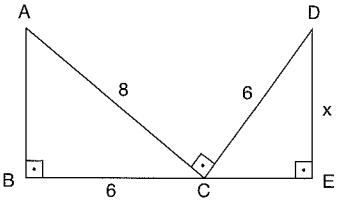
7.



$m(\widehat{BAD}) = m(\widehat{ACB})$
$|AB| = 9$ br
$|BD| = 6$ br
$\Rightarrow |DC| = x = ?$

A) $\frac{5}{2}$ B) 3 C) 5 D) 6 E) $\frac{15}{2}$

8.

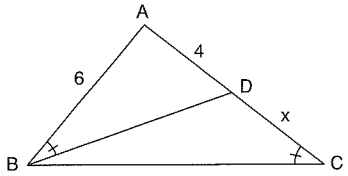


$[AB] \perp [BE]$
$[AC] \perp [CD]$
$[BE] \perp [DE]$
$|BC| = |CD| = 6$ br
$|AC| = 8$ br
$\Rightarrow |DE| = x = ?$

A) 8 B) 6 C) $\frac{11}{2}$ D) $\frac{9}{2}$ E) 3

www.ztcprep.com

9.



$m(\widehat{ABD}) = m(\widehat{ACB})$

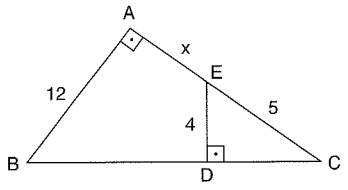
$|AD| = 4$ br

$|AB| = 6$ br

$\Rightarrow |DC| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

10.



$[BA] \perp [AC]$

$[ED] \perp [BC]$

$|ED| = 4$ br

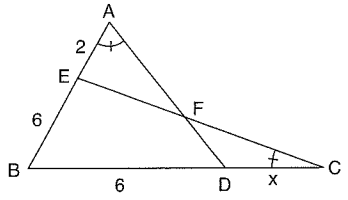
$|EC| = 5$ br

$|AB| = 12$ br

$\Rightarrow |AE| = x = ?$

A) 11 B) 10 C) 9 D) 5 E) 4

11.



$m(\widehat{BAD}) = m(\widehat{ECB})$

$|AE| = 2$ br

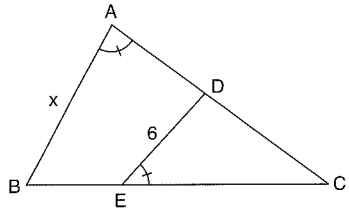
$|EB| = 6$ br

$|BD| = 6$ br

$\Rightarrow |DC| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

12.



$m(\widehat{BAC}) = m(\widehat{DEC})$

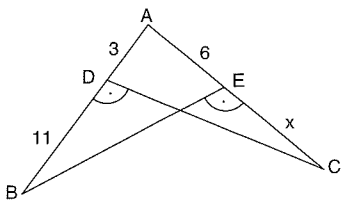
$3|DC| = 2|BC|$

$|ED| = 6$ br

$\Rightarrow |AB| = x = ?$

A) 2 B) $\frac{7}{3}$ C) 4 D) 6 E) 9

13.



$m(\widehat{BDC}) = m(\widehat{BEC})$

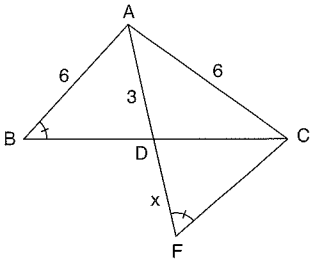
$2|AD| = |AE| = 6$ br

$|BD| = 11$ br

$\Rightarrow |EC| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

14.



$m(\widehat{ABC}) = m(\widehat{AFC})$

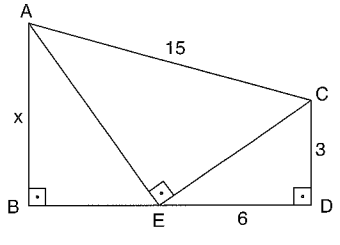
$|AB| = |AC| = 6$ br

$|AD| = 3$ br

$\Rightarrow |DF| = x = ?$

A) 12 B) 9 C) 7 D) $\frac{13}{2}$ E) $\frac{9}{2}$

15.



$[AB] \perp [BD]$

$[AE] \perp [EC]$

$[CD] \perp [BD]$

$|ED| = 6$ br

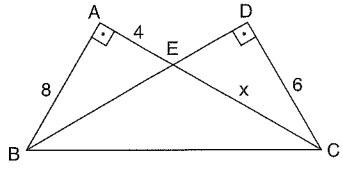
$|CD| = 3$ br

$|AC| = 15$ br

$\Rightarrow |AB| = x = ?$

A) $12\sqrt{5}$ B) $6\sqrt{5}$ C) 12 D) 6 E) $\sqrt{5}$

16.



$[BA] \perp [AC]$

$[BD] \perp [DC]$

$|AB| = 8$ br

$|AE| = 4$ br

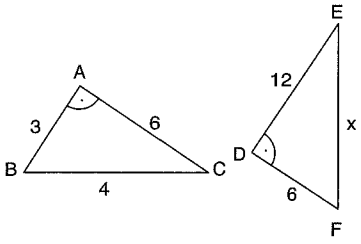
$|DC| = 6$ br

$\Rightarrow |EC| = x = ?$

A) 12 B) $6\sqrt{5}$ C) $4\sqrt{5}$ D) $3\sqrt{5}$ E) 3

PUZA YAYINLARI

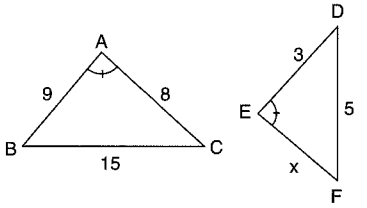
1.



$m(\widehat{BAC}) = m(\widehat{EDF})$
$|AB| = 3$ br
$|AC| = |DF| = 6$ br
$|DE| = 12$ br
$|BC| = 4$ br
$\Rightarrow |EF| = x = ?$

A) 16 B) 12 C) 8 D) 6 E) 4

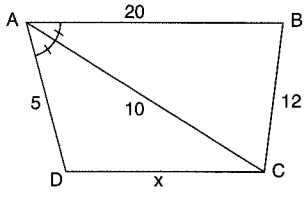
2.



$m(\widehat{BAC}) = m(\widehat{DEF})$
$|AC| = 8$ br
$|AB| = 9$ br
$|BC| = 15$ br
$|ED| = 3$ br
$|DF| = 5$ br
$\Rightarrow |EF| = x = ?$

A) 2 B) $\frac{8}{3}$ C) 4 D) 16 E) 24

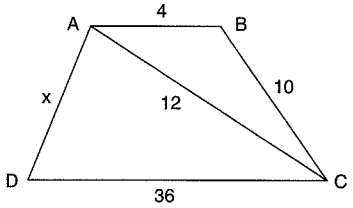
3.



$m(\widehat{BAC}) = m(\widehat{CAD})$
$|AB| = 20$ br
$|AC| = 10$ br
$|AD| = 5$ br
$|BC| = 12$ br
$\Rightarrow |DC| = x = ?$

A) 4 B) 6 C) 12 D) 24 E) 36

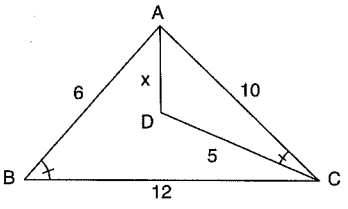
4.



$[AB] // [DC]$
$|AB| = 4$ br
$|BC| = 10$ br
$|AC| = 12$ br
$|DC| = 36$ br
$\Rightarrow |AD| = x = ?$

A) $\frac{10}{3}$ B) 5 C) 10 D) 30 E) 90

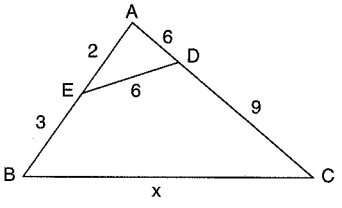
5.



$m(\widehat{ABC}) = m(\widehat{ACD})$
$|AB| = 6$ br
$|AC| = 10$ br
$|DC| = 5$ br
$|BC| = 12$ br
$\Rightarrow |AD| = x = ?$

A) 24 B) 15 C) 12 D) $\frac{25}{3}$ E) $\frac{25}{6}$

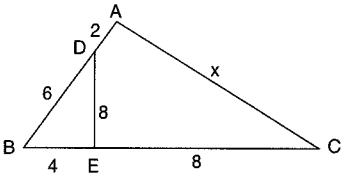
6.



$|AE| = 2$ br
$|AD| = |DE| = 6$ br
$|BE| = 3$ br
$|DC| = 9$ br
$\Rightarrow |BC| = x = ?$

A) 6 B) 9 C) 10 D) 12 E) 15

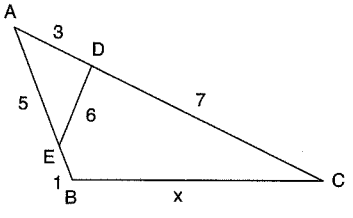
7.



$|EC| = |DE| = 8$ br
$|BD| = 6$ br
$|BE| = 4$ br
$|AD| = 2$ br
$\Rightarrow |AC| = x = ?$

A) 24 B) 16 C) 12 D) 8 E) 4

8.

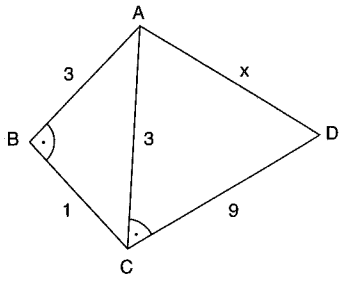


$|AD| = 3$ br
$|AE| = 5$ br
$|DE| = 6$ br
$|EB| = 1$ br
$|DC| = 7$ br
$\Rightarrow |BC| = x = ?$

A) 18 B) 16 C) 12 D) 8 E) 6

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

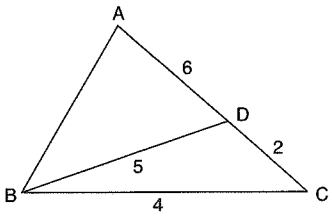
9.



$m(\widehat{ABC}) = m(\widehat{ACD})$
$|AB| = 3$ br
$|BC| = 1$ br
$|AC| = 3$ br
$|DC| = 9$ br
$\Rightarrow |AD| = x = ?$

A) 27 B) 24 C) 18 D) 9 E) 3

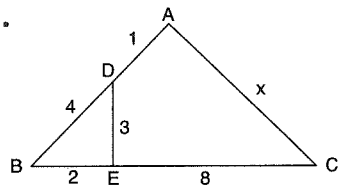
10.



$|AD| = 6$ br
$|DC| = 2$ br
$|BD| = 5$ br
$|BC| = 4$ br
$\Rightarrow$ Ç(ABC) = ?

A) 5 B) 10 C) 17 D) 22 E) 25

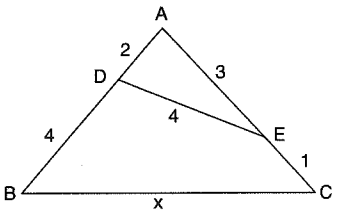
11.



$|BD| = 2|BE| = 4$br
$|AD| = 1$ br
$|EC| = 8$ br
$|DE| = 3$ br
$\Rightarrow |AC| = x = ?$

A) $\frac{7}{2}$ B) 4 C) 6 D) $\frac{15}{2}$ E) 10

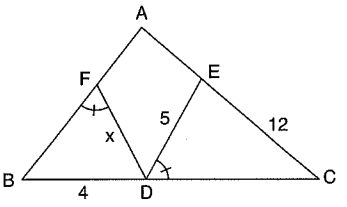
12.



$|AD| = 2$ br
$|AE| = 3$ br
$|DE| = |BD| = 4$ br
$|EC| = 1$ br
$\Rightarrow |BC| = x = ?$

A) 16 B) 12 C) 8 D) 4 E) 2

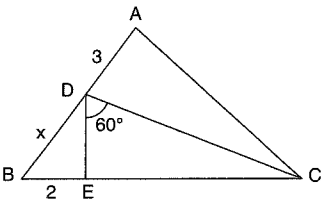
13.



$|AB| = |AC|$
$m(\widehat{BFD}) = m(\widehat{EDC})$
$|EC| = 12$ br
$|DE| = 5$ br
$|BD| = 4$ br
$\Rightarrow |FD| = x = ?$

A) $\frac{1}{2}$ B) $\frac{2}{5}$ C) 1 D) $\frac{5}{3}$ E) 5

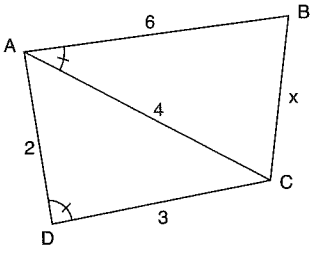
14.



ABC eşkenar üçgen
ABC equilateral triangle
$m(\widehat{EDC}) = 60°$
$|AD| = 3$ br
$|BE| = 2$ br
$\Rightarrow |BD| = x = ?$

A) 2 B) $\frac{5}{2}$ C) $\frac{7}{2}$ D) 4 E) 6

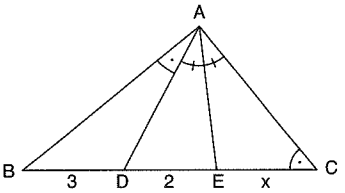
15.



$m(\widehat{BAC}) = m(\widehat{ADC})$
$|AB| = 6$ br
$|AC| = 4$ br
$|AD| = 2$ br
$|DC| = 3$ br
$\Rightarrow |BC| = x = ?$

A) 8 B) 6 C) 5 D) 4 E) 2

16.



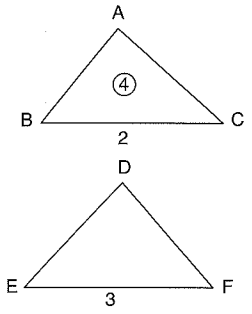
$m(\widehat{BAD}) = m(\widehat{ACB})$
$m(\widehat{DAE}) = m(\widehat{EAC})$
$|BD| = 3$ br
$|DE| = 2$ br
$\Rightarrow |EC| = x = ?$

A) 1 B) 2 C) $\frac{10}{3}$ D) 4 E) $\frac{13}{3}$

PUZA YAYINLARI

www.ztcprep.com

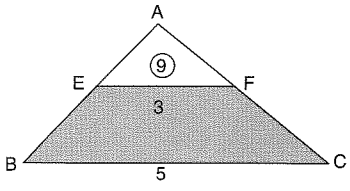
1.



$\widehat{ABC} \approx \widehat{DEF}$
$|BC| = 2$ br
$|EF| = 3$ br
$A(ABC) = 4$ br^2
$\Rightarrow A(DEF) = ?$

A) 3 B) 4 C) 6 D) 9 E) 18

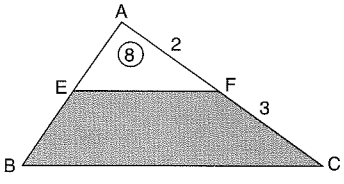
2.



[EF] // [BC]
$|EF| = 3$ br
$|BC| = 5$ br
$A(AEF) = 9$ br^2
$\Rightarrow A(EFCB) = ?$

A) 50 B) 25 C) 16 D) 15 E) 6

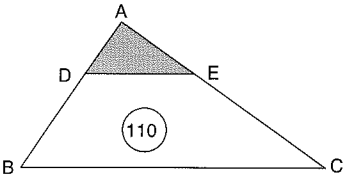
3.



[EF] // [BC]
$|AF| = 2$ br
$|FC| = 3$ br
$A(AEF) = 8$ br^2
$\Rightarrow A(EFCB) = ?$

A) 50 B) 42 B) 25 C) 27 D) 17

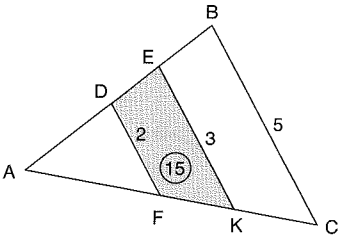
4.



[DE] // [BC]
$5|AE| = 3|EC|$
$A(DECB) = 110$ br^2
$\Rightarrow A(ADE) = ?$

A) 27 B) 18 C) 12 D) 9 E) 3

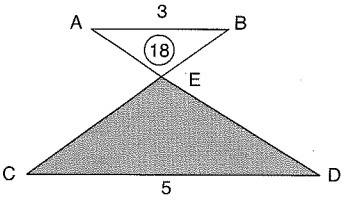
5.



[DF] // [EK] // [BC]
$|DF| = 2$ br
$|EK| = 3$ br
$|BC| = 5$ br
$A(DFKE) = 15$ br^2
$\Rightarrow A(ADF) + A(EBCK) = ?$

A) 60 B) 45 C) 35 D) 30 E) 20

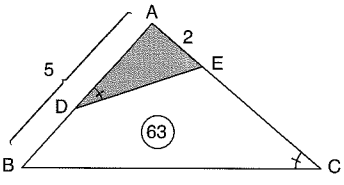
6.



[AB] // [CD]
$|AB| = 3$ br
$|CD| = 5$ br
$A(AEB) = 18$ br^2
$\Rightarrow A(CED) = ?$

A) 100 B) 50 C) 30 D) 25 E) 18

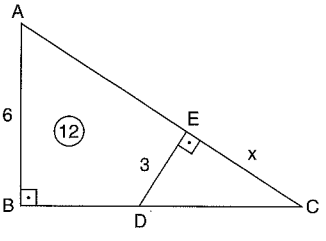
7.



$m(\widehat{ADE}) = m(\widehat{ACB})$
$|AE| = 2$ br
$|AB| = 5$ br
$A(DECB) = 63$ br^2
$\Rightarrow A(DAE) = ?$

A) 4 B) 8 C) 12 D) 14 E) 16

8.

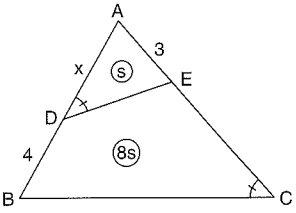


$[AB] \perp [BC]$
$[DE] \perp [AC]$
$|AB| = 6$ br
$|ED| = 3$ br
$A(ABDE) = 12$ br^2
$\Rightarrow |EC| = x = ?$

A) $\frac{6}{2}$ B) 2 C) $\frac{8}{3}$ D) 3 E) 6

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

9.



$m(\widehat{ADE}) = m(\widehat{ACB})$

$8A(ADE) = A(DECB)$

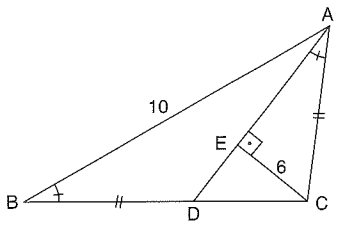
$|AE| = 3$ br

$|DB| = 4$ br

$\Rightarrow |AD| = x = ?$

A) 9 B) 6 C) 5 D) 4 E) 3

10.



$m(\widehat{DAC}) = m(\widehat{ABC})$

$|AC| = |BD|$

$[CE] \perp [AD]$

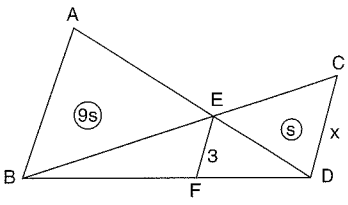
$|AB| = 10$ br

$|EC| = 6$ br

$\Rightarrow A(ABD) = ?$

A) 10 B) 12 C) 15 D) 30 E) 60

11.



$[AB] // [EF] // [CD]$

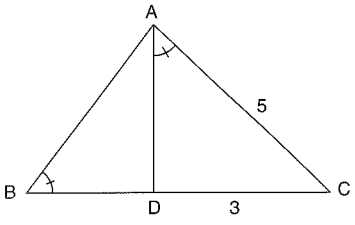
$A(ABE) = 9A(ECD)$

$|EF| = 3$ br

$\Rightarrow |CD| = x$

A) 1 B) 3 C) 4 D) $\frac{14}{3}$ E) 12

12.



$m(\widehat{DAC}) = m(\widehat{ABC})$

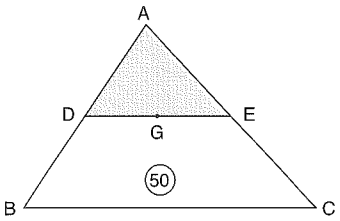
$|AC| = 5$ br

$|DC| = 3$ br

$\Rightarrow \frac{A(ABD)}{A(ADC)} = ?$

A) $\frac{2}{3}$ B) $\frac{5}{3}$ C) $\frac{16}{9}$ D) $\frac{25}{9}$ E) $\frac{25}{3}$

13.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity of ABC triangle's

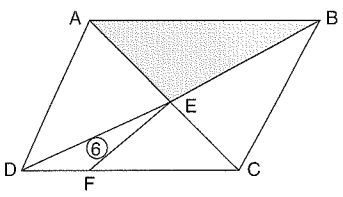
$[DE] // [BC]$

$A(DECB) = 50$ br^2

$\Rightarrow A(ADE) = ?$

A) 5 B) 10 C) 20 D) $\frac{200}{9}$ E) 40

14.



ABCD paralelkenar

ABCD parallelogram

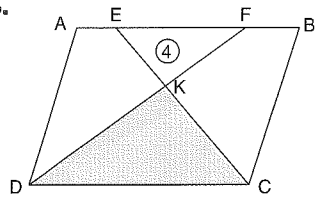
$3|DF| = 2|FC|$

$A(DEF) = 6$ br^2

$\Rightarrow A(ABE) = ?$

A) 10 B) 15 C) 25 D) $\frac{75}{2}$ E) 50

15.



ABCD paralelkenar

ABCD parallelogram

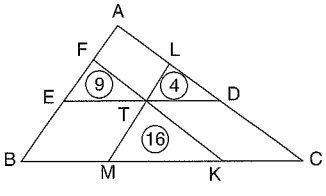
$3|AE| = 6|EF| = 2|FB|$

$A(EFK) = 4$ br^2

$\Rightarrow A(DKC) = ?$

A) 144 B) 72 C) 36 D) 24 E) 18

16.



$[ED] // [BC]$

$[ML] // [AB]$

$[FK] // [AC]$

$A(EFT) = 9$ br^2

$A(TLD) = 4$ br^2

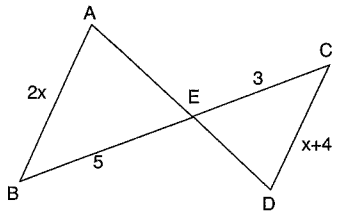
$A(TMK) = 16$ br^2

$\Rightarrow A(ABC) = ?$

A) 27 B) 29 C) 48 D) 64 E) 81

PUZA YAYINLARI

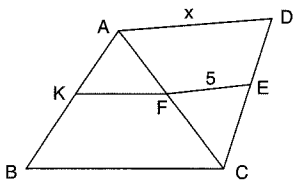
1.



$[AB] \parallel [CD]$
$|BE| = 5$ br
$|EC| = 3$ br
$|AB| = 2x$
$|CD| = x + 4$
$\Rightarrow x = ?$

A) 20 B) 12 C) 10 D) 4 E) $\frac{20}{11}$

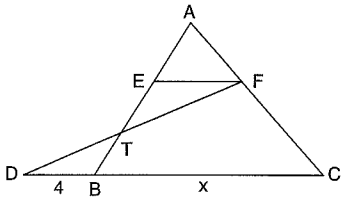
2.



$[KF] \parallel [BC]$
$[FE] \parallel [AD]$
$3|KF| = |BC|$
$|EF| = 5$ br
$\Rightarrow |AD| = x = ?$

A) 1 B) $\frac{6}{5}$ C) $\frac{10}{3}$ D) $\frac{15}{2}$ E) 15

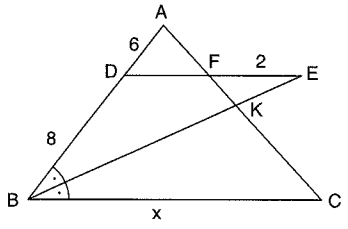
3.



$[EF] \parallel [DC]$
$2|AE| = 2|ET| = |BT|$
$|DB| = 4$ br
$\Rightarrow |BC| = x = ?$

A) 2 B) 3 C) 4 D) 6 E) 8

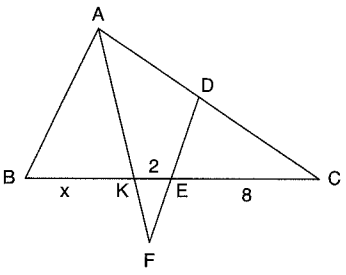
4.



$[DE] \parallel [BC]$
$|EF| = 2$ br
$|AD| = 6$ br
$|BD| = 8$ br
$m(\widehat{ABE}) = m(\widehat{EBC})$
$\Rightarrow |BC| = x = ?$

A) $\frac{56}{3}$ B) 14 C) 8 D) 6 E) 4

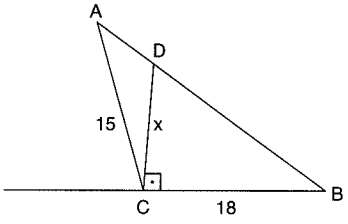
5.



$[DF] \parallel [AB]$
$|DE| = 2|EF|$
$|EC| = 8$ br
$|KE| = 2$ br
$\Rightarrow |BK| = x = ?$

A) 10 B) 8 C) 6 D) 4 E) 2

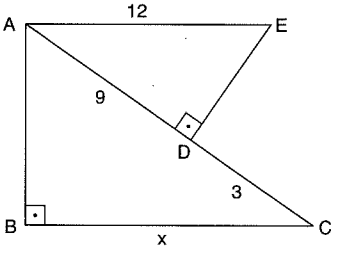
6.



$[DC] \perp [CB]$
$2|AD| = |DB|$
$|AC| = 15$ br
$|CB| = 18$ br
$\Rightarrow |DC| = x = ?$

A) 6 B) 8 C) 12 D) 16 E) 20

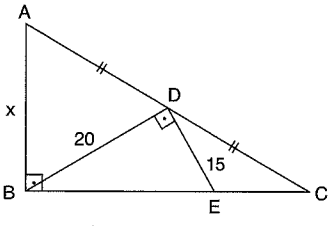
7.



$[AE] \parallel [BC]$
$[ED] \perp [AC]$
$[AB] \perp [BC]$
$|AE| = 12$ br
$|AD| = 9$ br
$|DC| = 3$ br
$\Rightarrow |BC| = x = ?$

A) 10 B) 9 C) $\frac{45}{4}$ D) $\frac{15}{2}$ E) 5

8.

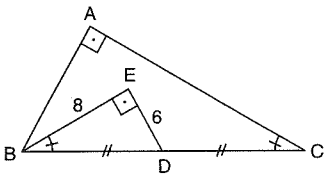


$[AB] \perp [BC]$
$[BD] \perp [DE]$
$|AD| = |DC|$
$|BD| = 20$ br
$|DE| = 15$ br
$\Rightarrow |AB| = x = ?$

A) 36 B) 24 C) 12 D) 8 E) 6

PUZA YAYINLARI

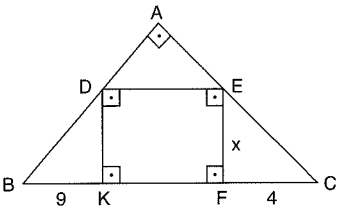
9.



$|BD| = |DC|$
$[BA] \perp [AC]$
$[BE] \perp [ED]$
$|EB| = 8$ br
$|ED| = 6$ br
$m(\widehat{EBC}) = m(\widehat{ACB})$
$\Rightarrow A(ABC) = ?$

A) 48 B) 64 C) 96 D) 100 E) 114

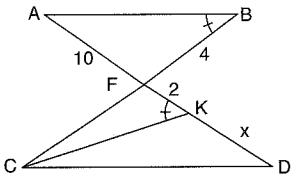
10.



$[BA] \perp [AC]$
DEFK dikdörtgen
DEFK rectangle
$|BK| = 9$ br
$|FC| = 4$ br
$\Rightarrow |EF| = x = ?$

A) $\frac{2}{3}$ B) 4 C) $\frac{9}{2}$ D) 6 E) 36

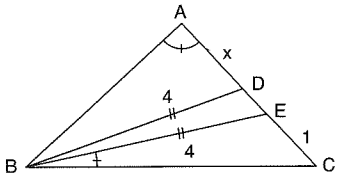
11.



$[AB] // [CD]$
$m(\widehat{ABC}) = m(\widehat{AKC})$
$|AF| = 10$ br
$|BF| = 4$ br
$|FK| = 2$ br
$\Rightarrow |KD| = x = ?$

A) 21 B) $\frac{21}{2}$ C) 12 D) 6 E) $\frac{11}{2}$

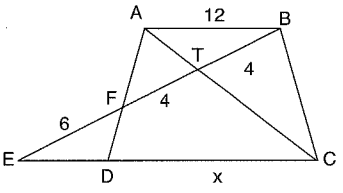
12.



$m(\widehat{BAC}) = m(\widehat{EBC})$
$|BD| = |BE| = 4$ br
$|EC| = 1$ br
$\Rightarrow |AD| = x = ?$

A) 16 B) 8 C) 4 D) 2 E) 1

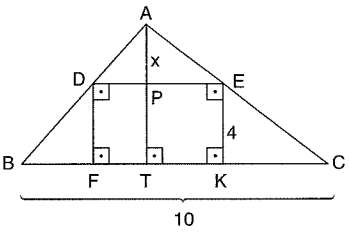
13.



$[AB] // [EC]$
$|AB| = 12$ br
$|EF| = 6$ br
$|FT| = |TB| = 4$ br
$\Rightarrow |DC| = x = ?$

A) 9 B) 12 C) 16 D) 21 E) 30

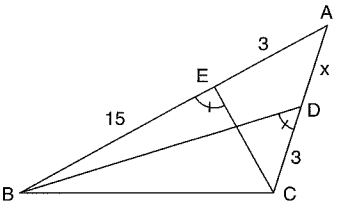
14.



DEKF kare
DEKF square
$|EK| = 4$ br
$|BC| = 10$ br
$\Rightarrow |AP| = x = ?$

A) 1 B) $\frac{4}{3}$ C) $\frac{8}{3}$ D) 4 E) 32

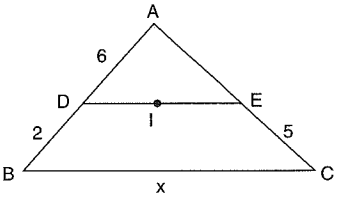
15.



$m(\widehat{BEC}) = m(\widehat{BDC})$
$|DC| = 3$ br
$|BE| = 15$ br
$|AE| = 3$ br
$\Rightarrow |AD| = x = ?$

A) 3 B) 4 C) 6 D) 9 E) 12

16.



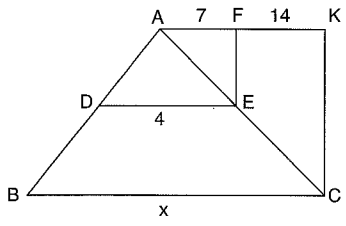
$[DE] // [BC]$
I iç teğet çemberin merkezi
I center point of the incircle
$|AD| = 6$ br
$|BD| = 2$ br
$|EC| = 5$ br
$\Rightarrow |BC| = x = ?$

A) $\frac{28}{3}$ B) 8 C) 6 D) $\frac{21}{4}$ E) 5

PUZA YAYINLARI

www.ztcprep.com

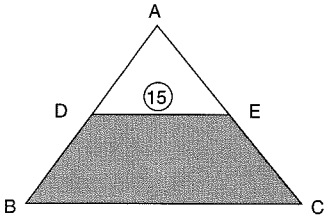
1.



[DE] // [BC]
[FE] // [KC]
|AF| = 7 br
|FK| = 14 br
|DE| = 4 br
⇒ |BC| = x = ?

A) 2 B) 6 C) 8 D) 10 E) 12

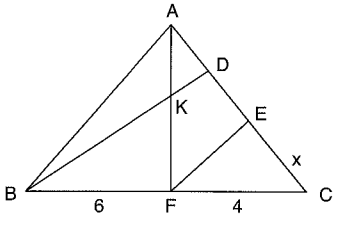
2.



[DE] // [BC]
5|AD| = 3|AB|
A(ADE) = 15 br²
⇒ A(DECB) = ?

A) $\frac{5}{3}$ B) $\frac{80}{3}$ C) 30 D) $\frac{225}{3}$ E) 80

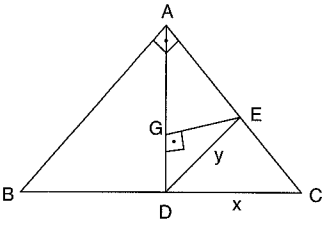
3.



[BD] // [FE]
2|AK| = 3|KF|
|BF| = 6 br
|FC| = 4 br
|AC| = 19 br
⇒ |EC| = x = ?

A) 2 B) 3 C) 4 D) 6 E) 8

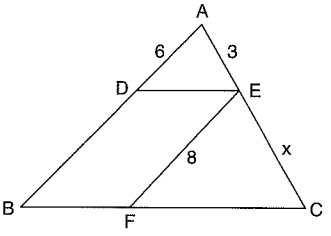
4.



G, ABC üçgeninin ağırlık merkezi
G, center of gravity of ABC triangle's
[AB] // [ED]
[BA] ⊥ [AC]
[EG] ⊥ [AD]
|ED| = y
|DC| = x
⇒ $\frac{x}{y}$ = ?

A) $\frac{1}{\sqrt{3}}$ B) 1 C) $\sqrt{3}$ D) 3 E) $3\sqrt{3}$

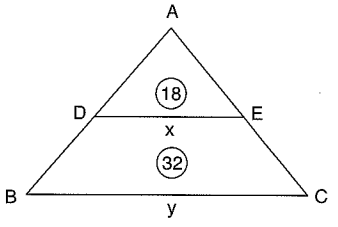
5.



DEFB paralelkenar
DEFB parallelogram
|AD| = 2|AE| = 6 br
|EF| = 8 br
⇒ |EC| = x = ?

A) 1 B) 2 C) 3 D) 4 E) 5

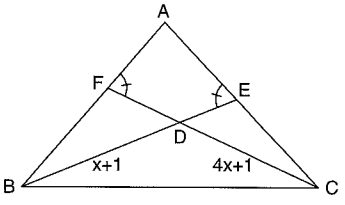
6.



[DE] // [BC]
A(ADE) = 18 br²
A(DECB) = 32 br²
|DE| = x
|BC| = y
⇒ $\frac{x}{y}$ = ?

A) $\frac{3}{4}$ B) $\frac{3}{5}$ C) $\frac{3}{7}$ D) $\frac{9}{25}$ E) $\frac{9}{49}$

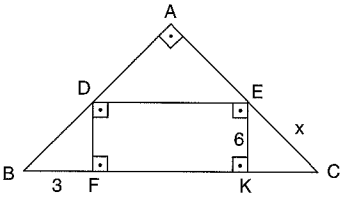
7.



$m(\widehat{AFC}) = m(\widehat{AEB})$
|FD| = x
|DE| = 2x + 2
|DC| = 4x + 1
|BD| = x + 1
⇒ $\frac{A(BFD)}{A(DEC)}$ = ?

A) $\frac{1}{9}$ B) $\frac{1}{3}$ C) 1 D) 3 E) 9

8.

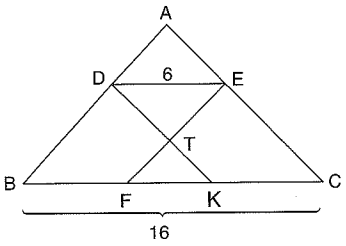


DEKF dikdörtgen
DEKF rectangle
[BA] ⊥ [AC]
|BF| = 3 br
|EK| = 6 br
⇒ |EC| = x = ?

A) $\sqrt{5}$ B) 5 C) $3\sqrt{5}$ D) $6\sqrt{5}$ E) $12\sqrt{5}$

PUZA YAYINLARI

9.



DEFB ve DECK paralelkenar

DEFB and DECK parallelogram

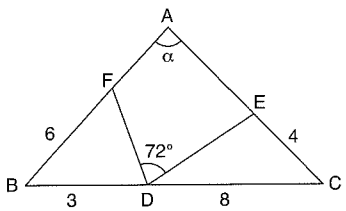
$|DE| = 6$ br

$|BC| = 16$ br

$\Rightarrow \frac{A(DET)}{A(FTK)} = ?$

A) 1 B) $\frac{3}{2}$ C) $\frac{9}{4}$ D) 3 E) 9

10.



$|AB| = |AC|$

$m(\widehat{FDE}) = 72°$

$|BF| = 6$ br

$|EC| = 4$ br

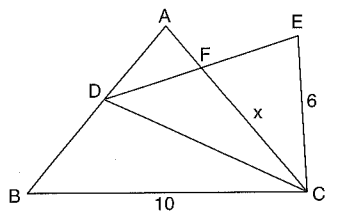
$|BD| = 3$ br

$|DC| = 8$ br

$\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 144 B) 72 C) 36 D) 18 E) 9

11.



ABC, DEC eşkenar üçgen

ABC, DEC equilateral triangle

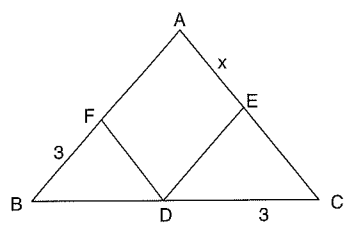
$|EC| = 6$ br

$|BC| = 10$ br

$\Rightarrow |FC| = x = ?$

A) 2 B) 3,6 C) 4 D) 4,8 E) 8

12.



ABC eşkenar üçgen

ABC equilateral triangle

$m(\widehat{AED}) = m(\widehat{FDC})$

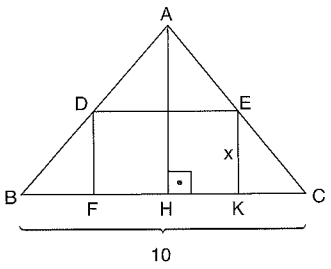
$|BF| = 3$ br

$|DC| = 3$ br

$\Rightarrow |AE| = x = ?$

A) 1 B) $\frac{3}{2}$ C) 2 D) 3 E) 4

13.



DEKF kare

DEKF square

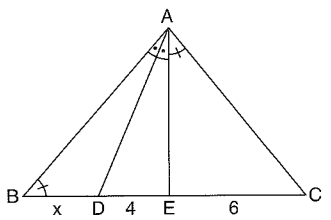
$|AH| = 12$ br

$|BC| = 10$ br

$\Rightarrow |EK| = x = ?$

A) 60 B) 30 C) 15 D) $\frac{32}{5}$ E) $\frac{60}{11}$

14.



$m(\widehat{EAC}) = m(\widehat{ABC})$

$m(\widehat{BAD}) = m(\widehat{DAE})$

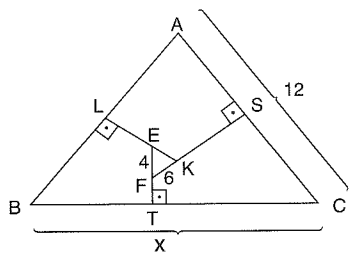
$|DE| = 4$ br

$|EC| = 6$ br

$\Rightarrow |BD| = x = ?$

A) 2 B) 4 C) $\frac{22}{5}$ D) $\frac{20}{3}$ E) $\frac{35}{2}$

15.



$[ET] \perp [BC]$

$[KL] \perp [AB]$

$[FS] \perp [AC]$

$|EF| = 4$ br

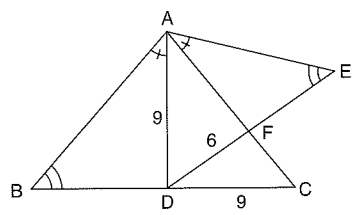
$|FK| = 6$ br

$|AC| = 12$ br

$\Rightarrow |BC| = x = ?$

A) 2 B) 4 C) 6 D) 8 E) 12

16.



$m(\widehat{CAE}) = m(\widehat{BAD})$

$m(\widehat{AED}) = m(\widehat{ABC})$

$|AD| = 9$ br

$|DC| = 9$ br

$|DF| = 6$ br

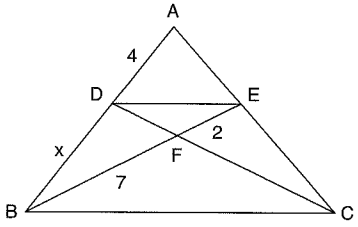
$\Rightarrow |AF| = ?$

A) 3 B) 6 C) 8 D) 9 E) 12

PUZA YAYINLARI

www.ztcprep.com

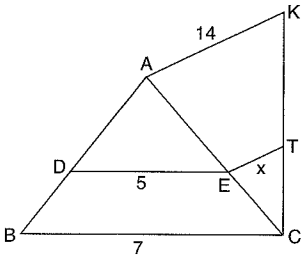
1.



[DE] // [BC]
|EF| = 2 br
|BF| = 7 br
|AD| = 4 br
⇒ |BD| = x = ?

A) $\frac{1}{2}$ B) 3 C) 10 D) 14 E) 18

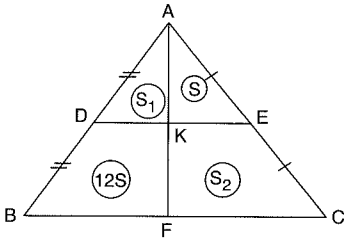
2.



[DE] // [BC]
[AK] // [ET]
|AK| = 14 br
|DE| = 5 br
|BC| = 7 br
⇒ |ET| = x = ?

A) 2 B) 3 C) 4 D) $\frac{49}{6}$ E) $\frac{98}{5}$

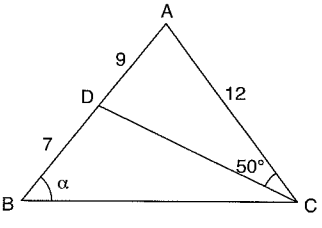
3.



|AD| = |DB|
|AE| = |EC|
12A(AKE) = A(DKFB)
A(ADK) = S_1
A(KECF) = S_2
⇒ $\frac{S_1}{S_2}$ = ?

A) $\frac{1}{12}$ B) $\frac{3}{4}$ C) 1 D) $\frac{4}{3}$ E) 12

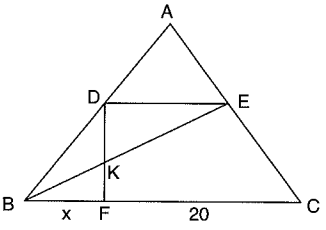
4.



|AD| = 9 br
|BD| = 7 br
|AC| = 12 br
m(ACD) = 50°
⇒ m(ABC) = α = ?

A) 25 B) 40 C) 50 D) 80 E) 100

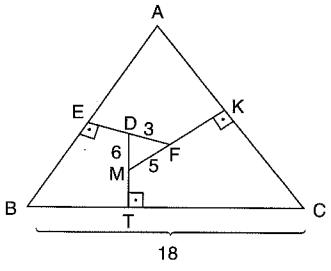
5.



[DE] // [BC]
|AD| = 2|BD|
|EK| = 3|BK|
|FC| = 20 br
⇒ |BF| = x = ?

A) $\frac{20}{7}$ B) $\frac{10}{3}$ C) $\frac{40}{7}$ D) 20 E) 40

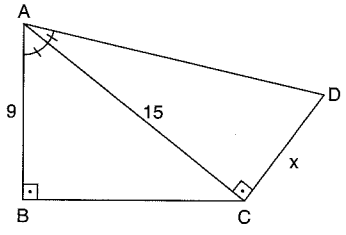
6.



[FE] ⊥ [AB]
[MK] ⊥ [AC]
[DT] ⊥ [BC]
|DF| = 3 br
|DM| = 6 br
|MF| = 5 br
|BC| = 18 br
⇒ Ç(ABC) = ?

A) 28 B) 42 C) 56 D) 70 E) 84

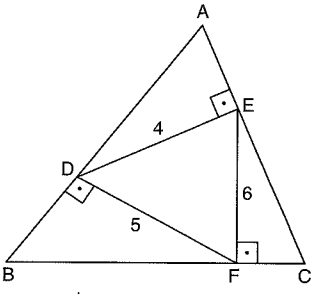
7.



[AB] ⊥ [BC]
[AC] ⊥ [CD]
|AB| = 9 br
|AC| = 15 br
⇒ |DC| = x = ?

A) 9 B) 12 C) 15 D) 20 E) 25

8.

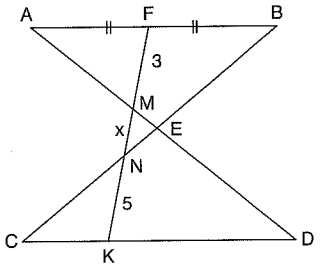


[DE] ⊥ [AC]
[FD] ⊥ [AB]
[EF] ⊥ [BC]
|DF| = 5 br
|DE| = 4 br
|EF| = 6 br
|BC| = 12 br
⇒ Ç(ABC) = ?

A) 15 B) 30 C) 45 D) 60 E) 75

PUZA YAYINLARI

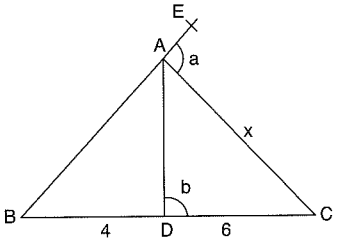
9.



$|AF| = |FB|$
$7|CK| = 3|KD|$
$[AB] \,//\, [CD]$
$|FM| = 3$ br
$|NK| = 5$ br
$\Rightarrow |MN| = x = ?$

A) 5 B) 4 C) 3 D) 2 E) 1

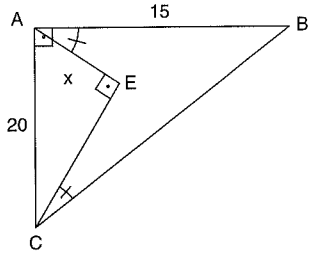
10.



$m(\widehat{EAC}) = a$
$m(\widehat{ADC}) = b$
$a + b = 180°$
$|BD| = 4$ br
$|DC| = 6$ br
$\Rightarrow |AC| = x = ?$

A) $\sqrt{5}$ B) $\sqrt{10}$ C) $\sqrt{15}$ D) $\sqrt{30}$ E) $2\sqrt{15}$

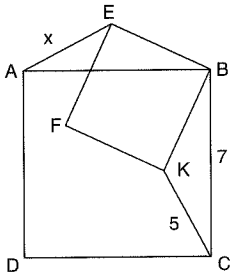
11.



$[CA] \perp [AB]$
$[AE] \perp [EC]$
$m(\widehat{BAE}) = m(\widehat{ECB})$
$|AC| = 20$ br
$|AB| = 15$ br
$\Rightarrow |AE| = x = ?$

A) $\sqrt{5}$ B) $\sqrt{10}$ C) $2\sqrt{10}$ D) $4\sqrt{10}$ E) $8\sqrt{10}$

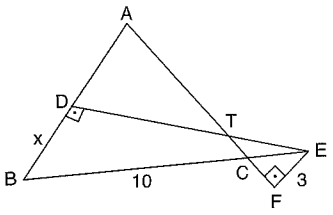
12.



ABCD ve EBKF kare
ABCD and EBKF square
$|BC| = 7$ br
$|KC| = 5$ br
$\Rightarrow |AE| = x = ?$

A) 2 B) 3 C) 4 D) 5 E) 7

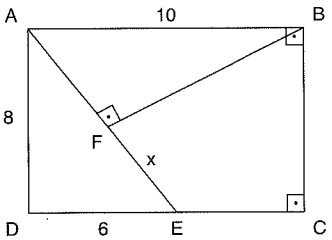
13.



$|AC| = |AB|$
$[ED] \perp [AB]$
$[EF] \perp [AF]$
$|BC| = 10$ br
$|CE| = 5$ br
$|EF| = 3$ br
$\Rightarrow |BD| = x = ?$

A) 6 B) 8 C) 9 D) 12 E) 15

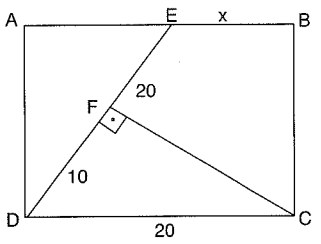
14.



ABCD dikdörtgen
ABCD rectangle
$[BF] \perp [AE]$
$|AB| = 10$ br
$|AD| = 8$ br
$|DE| = 6$ br
$\Rightarrow |FE| = x = ?$

A) 10 B) 8 C) 6 D) 4 E) 2

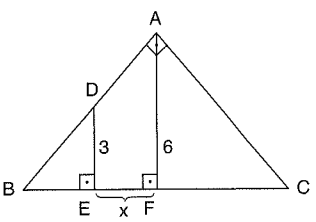
15.



ABCD dikdörtgen
ABCD rectangle
$[DE] \perp [FC]$
$|EF| = 20$ br
$|DF| = 10$ br
$|DC| = 20$ br
$\Rightarrow |EB| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

16.



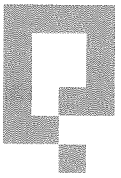
$[BA] \perp [AC]$
$[DE] \perp [BC]$
$[AF] \perp [BC]$
$|AF| = 6$ br
$|DE| = 3$ br
$A(AFC) = 4A(BDE)$
$\Rightarrow |EF| = x = ?$

A) 6 B) 5 C) 4 D) 3 E) 2

PUZA YAYINLARI

www.ztcprep.com

ZTC زنگنه مجموعه موسسات



ÜÇGENDE BENZERLİK TRIANGLE SIMILARITIES

Yanıt Anahtarı Answer Key

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	C	E	E	D	C	C	A	D	A	D	B	E	C	D	B

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	D	D	A	E	A	E	B	B	D	D	A	B	C	A

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	D	B	E	C	B	D	D	E	C	E	C	E	B	B	A

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	E	D	B	D	C	A	B	D	D	D	B	B	A	C

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	D	A	D	C	B	E	D	E	E	B	E	A	B	C	D

TEST 6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	B	B	D	D	E	B	C	D	D	D	C	D	E	A	C

TEST 7

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	B	B	A	B	C	C	C	D	C	C	E	B	A	E

TEST 8

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	D	E	B	A	B	B	B	C	D	B	A	D	C	C	A

TEST 9

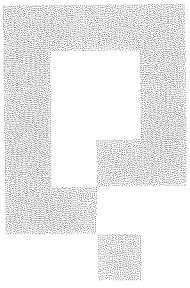
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	B	C	C	D	B	A	D	C	C	B	D	E	D	D	B

TEST 10

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	C	D	C	C	B	D	B	D	E	C	D	D	D	E	D

www.ztcprep.com

ZTC زنگنه
مجموعه موسسات

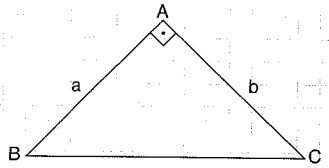


ÜÇGENDE ALAN

AREAS OF TRIANGLES

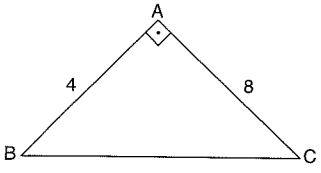
www.ztcprep.com

ÖZELLİK|Property 1



$$A(ABC) = \frac{a \cdot b}{2}$$

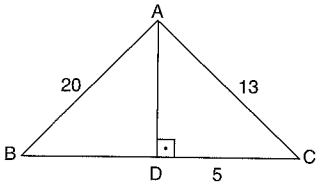
1.



⇒ A(ABC) = ?

16

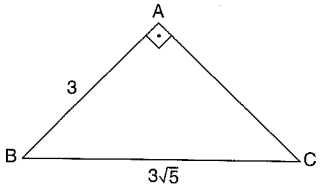
2.



⇒ A(ABC) = ?

126

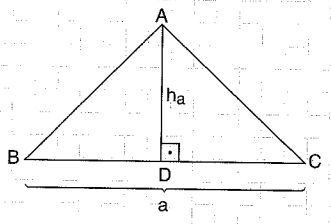
3.



⇒ A(ABC) = ?

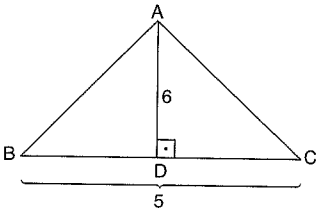
9

ÖZELLİK|Property 2



$$A(ABC) = \frac{a \cdot h_a}{2}$$

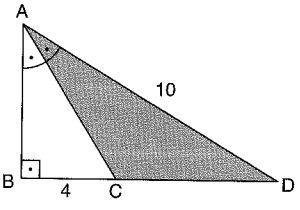
1.



⇒ A(ABC) = ?

15

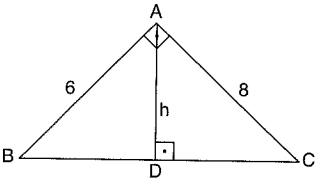
2.



⇒ A(ACD) = ?

20

3.

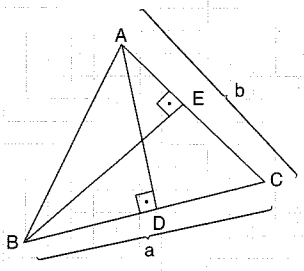


⇒ h = ?

4,8

PUZA YAYINLARI

ÖZELLİK | Property 3

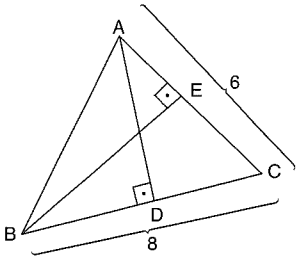


$|AD| = h_a$

$|BE| = h_b$

$$A(ABC) = \frac{a \cdot h_a}{2} = \frac{b \cdot h_b}{2}$$

1.

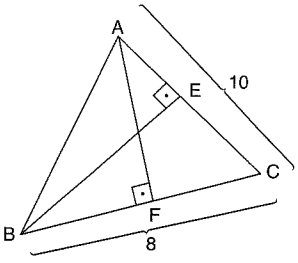


$|AD| = 3$ br

$\Rightarrow |BE| = ?$

4

2.

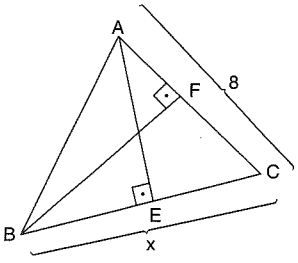


$|BE| = 6$ br

$\Rightarrow |AF| = ?$

$\frac{15}{2}$

3.



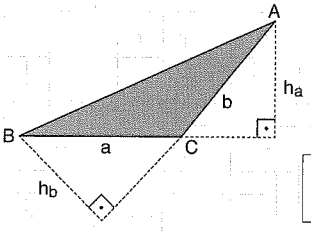
$|AE| = 4$ br

$|BF| = 6$ br

$\Rightarrow x = ?$

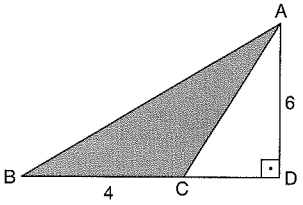
12

ÖZELLİK | Property 4



$$A(ABC) = \frac{a \cdot h_a}{2} = \frac{b \cdot h_b}{2}$$

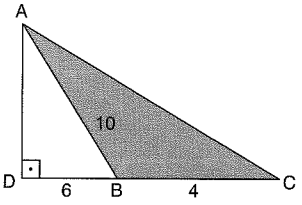
1.



$\Rightarrow A(ABC) = ?$

12

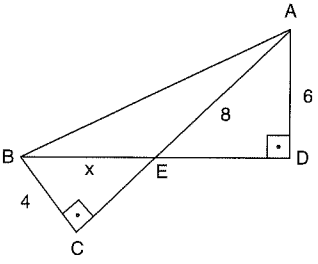
2.



$\Rightarrow A(ABC) = ?$

16

3.

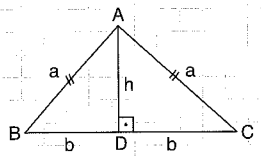


$\Rightarrow x = ?$

$\frac{16}{3}$

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

ÖZELLİK|Property 5

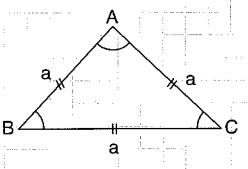


İkizkenar üçgen

Isosceles triangle

$b^2 + h^2 = a^2$

$$A(ABC) = \frac{2b \cdot h}{2} = b \cdot h$$

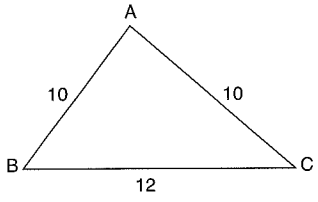


Eşkenar üçgen

Equilateral triangle

$$A(ABC) = \frac{a^2\sqrt{3}}{4}$$

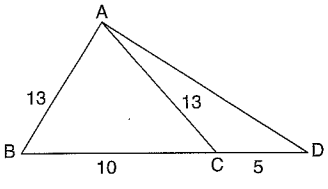
1.



$\Rightarrow A(ABC) = ?$

48

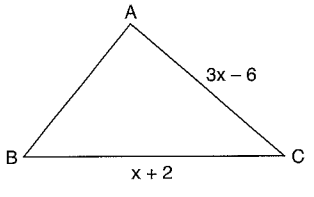
2.



$\Rightarrow A(ACD) = ?$

30

3.



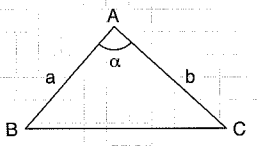
ABC eşkenar üçgen

ABC equilateral triangle

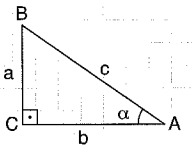
$\Rightarrow A(ABC) = ?$

$9\sqrt{3}$

ÖZELLİK|Property 6



$$A(ABC) = \frac{a \cdot b}{2} \cdot \sin\alpha$$

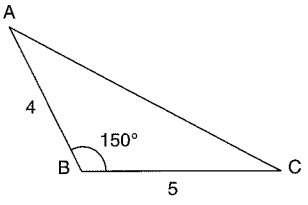


ABC dik üçgen

ABC right triangle

$$\sin\alpha = \frac{a}{c}$$

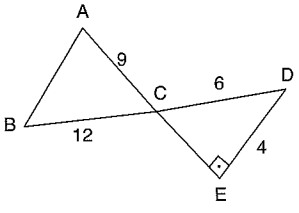
1.



$\Rightarrow A(ABC) = ?$

5

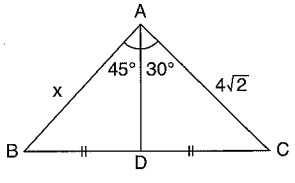
2.



$\Rightarrow A(ABC) = ?$

36

3.

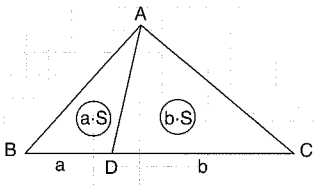


$\Rightarrow x = ?$

4

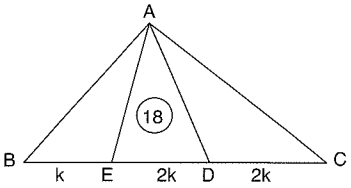
PUZA YAYINLARI

ÖZELLİK|Property 7



$$\frac{A(ABD)}{A(ADC)} = \frac{a}{b}$$

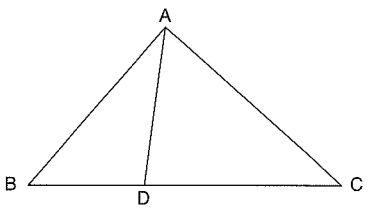
1.



⇒ A(ABC) = ?

45

2.



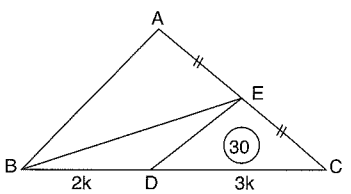
A(ABC) = 70

3|BD| = 4|DC|

⇒ A(ADC) = ?

30

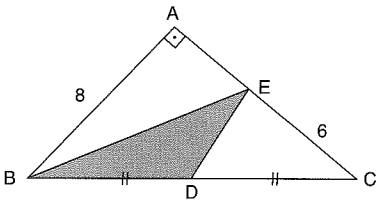
3.



⇒ A(ABC) = ?

100

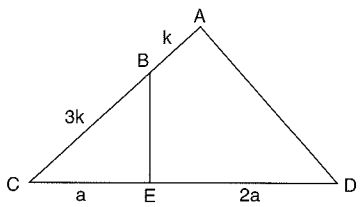
4.



⇒ A(EBD) = ?

12

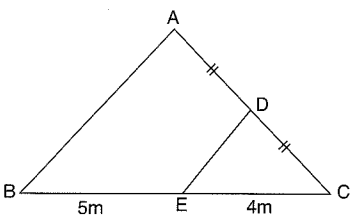
5.



$$\Rightarrow \frac{A(BCE)}{A(ADC)} = ?$$

$\frac{1}{4}$

6.

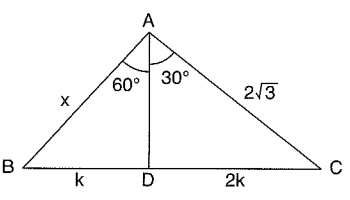


A(EDC) = 40 br^2

⇒ A(ABC) = ?

180

7.

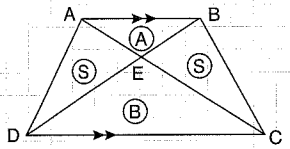


⇒ x = ?

1

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

ÖZELLİK | Property 8

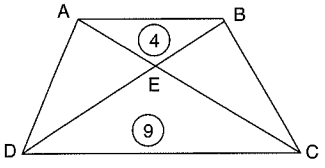


[AB] // [DC]

$A(AED) = A(EBC)$

$S \cdot S = A \cdot B$

1.

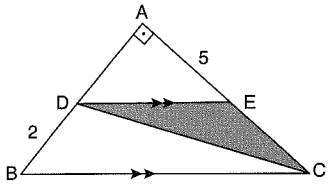


[AB] // [CD]

⇒ A(ABCD) = ?

25

2.



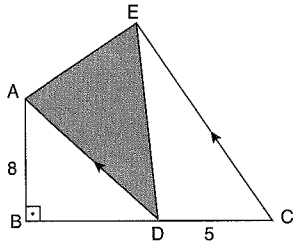
[BA] ⊥ [AC]

[DE] // [BC]

⇒ A(DEC) = ?

5

3.



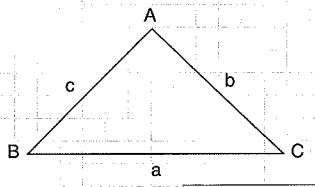
[AB] ⊥ [BC]

[AD] // [EC]

⇒ A(ADE) = ?

20

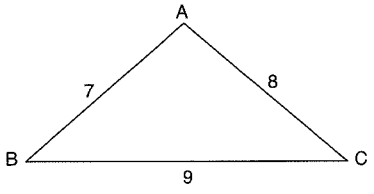
ÖZELLİK | Property 9



$u = \frac{a+b+c}{2}$

$A(ABC) = \sqrt{u(u-a)(u-b)(u-c)}$

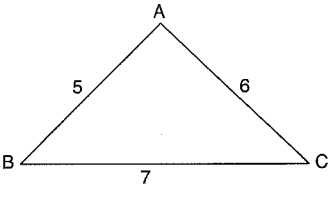
1.



⇒ A(ABC) = ?

$12\sqrt{5}$

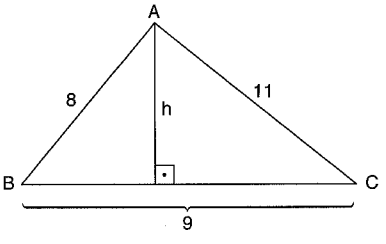
2.



⇒ A(ABC) = ?

$6\sqrt{6}$

3.

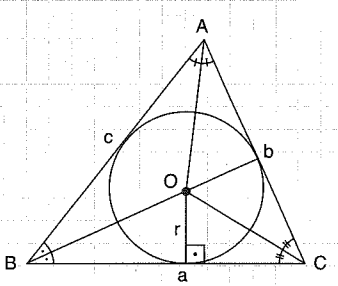


⇒ h = ?

$\frac{4\sqrt{35}}{3}$

PUZA YAYINLARI

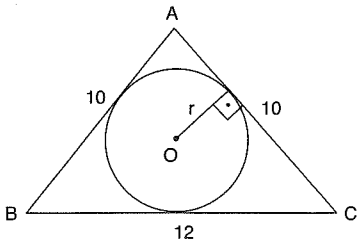
ÖZELLİK | Property 10



$$u = \frac{a+b+c}{2}$$

$$A(ABC) = u \cdot r$$

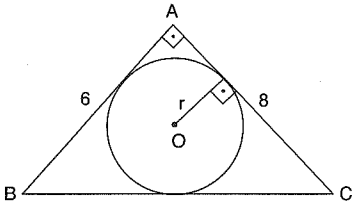
1.



$\Rightarrow r = ?$

3

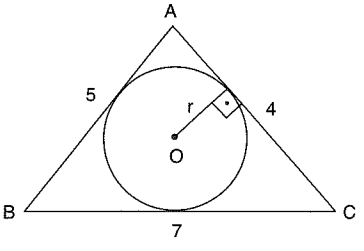
2.



$\Rightarrow r = ?$

2

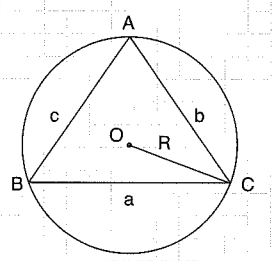
3.



$\Rightarrow r = ?$

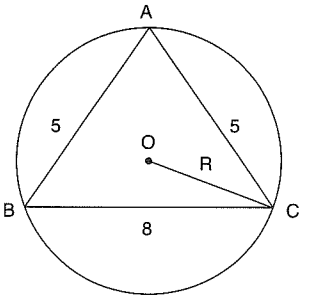
$\frac{\sqrt{6}}{2}$

ÖZELLİK | Property 11



$$A(ABC) = \frac{a \cdot b \cdot c}{4 \cdot R}$$

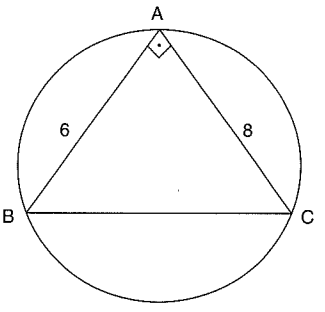
1.



$\Rightarrow R = ?$

$\frac{25}{6}$

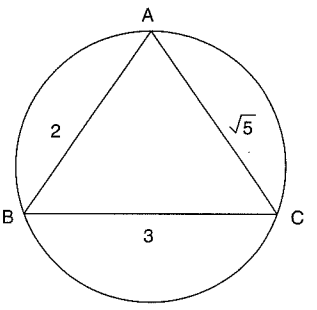
2.



$\Rightarrow R = ?$

5

3.

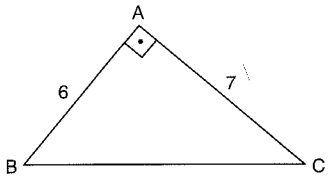


$\Rightarrow R = ?$

$\frac{3}{2}$

PUZA YAYINLARI

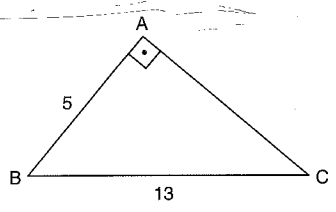
1.



$[BA] \perp [AC]$
$|AB| = 6$ br
$|AC| = 7$ br
$\Rightarrow A(ABC) = ?$

A) 6 B) 7 C) 14 D) 21 E) 42

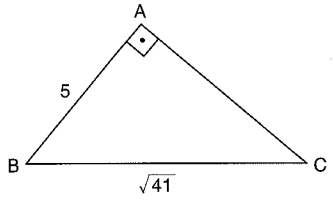
2.



$[BA] \perp [AC]$
$|AB| = 5$ br
$|BC| = 13$ br
$\Rightarrow A(ABC) = ?$

A) 15 B) 30 C) 60 D) 65 E) 75

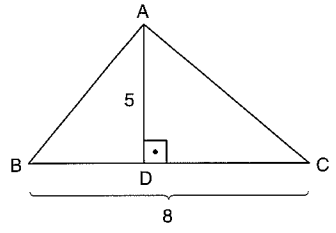
3.



$[BA] \perp [AC]$
$|AB| = 5$ br
$|BC| = \sqrt{41}$ br
$\Rightarrow A(ABC) = ?$

A) 10 B) 20 C) 60 D) $5\sqrt{41}$ E) $10\sqrt{41}$

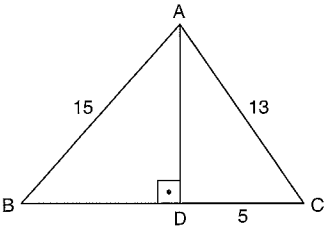
4.



$[AD] \perp [BC]$
$|AD| = 5$ br
$|BC| = 8$ br
$\Rightarrow A(ABC) = ?$

A) 5 B) 8 C) 10 D) 20 E) 40

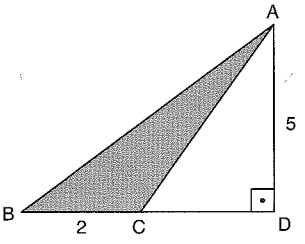
5.



$[AD] \perp [BC]$
$|AB| = 15$ br
$|AC| = 13$ br
$|DC| = 5$ br
$\Rightarrow A(ABC) = ?$

A) 30 B) 54 C) 60 D) 64 E) 84

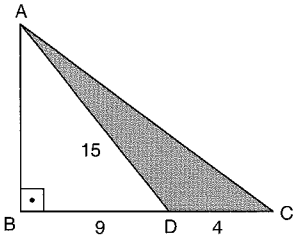
6.



$[AD] \perp [BD]$
$|AD| = 5$ br
$|BC| = 2$ br
$\Rightarrow A(ABC) = ?$

A) 2 B) $\frac{5}{2}$ C) 5 D) 10 E) 20

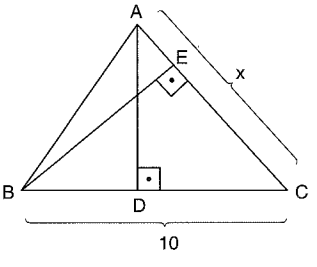
7.



$[AB] \perp [BC]$
$|AD| = 15$ br
$|BD| = 9$ br
$|DC| = 4$ br
$\Rightarrow A(ADC) = ?$

A) 9 B) 18 C) 24 D) 48 E) 96

8.

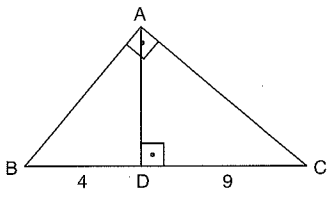


$[AD] \perp [BC]$
$[BE] \perp [AC]$
$|AD| = 6$ br
$|BE| = 5$ br
$|BC| = 10$ br
$\Rightarrow |AC| = x = ?$

A) 12 B) 13 C) 15 D) 16 E) 18

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

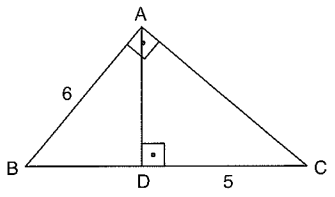
9.



$[BA] \perp [AC]$
$[AD] \perp [BC]$
$|DC| = 9$ br
$|BD| = 4$ br
$\Rightarrow A(ABC) = ?$

A) 78 B) 39 C) 36 D) 18 E) 12

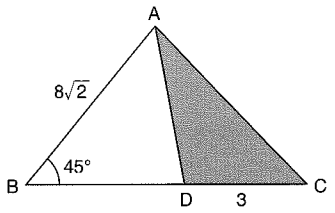
10.



$[BA] \perp [AC]$
$[AD] \perp [BC]$
$|AB| = 6$ br
$|DC| = 5$ br
$\Rightarrow A(ABC) = ?$

A) 15 B) 30 C) $9\sqrt{5}$ D) $18\sqrt{5}$ E) $36\sqrt{5}$

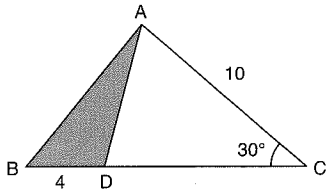
11.



$m(\widehat{ABC}) = 45°$
$|AB| = 8\sqrt{2}$ br
$|DC| = 3$ br
$\Rightarrow A(ADC) = ?$

A) 6 B) 12 C) $12\sqrt{2}$ D) 24 E) $24\sqrt{2}$

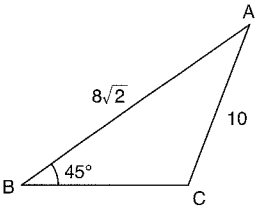
12.



$m(\widehat{ACB}) = 30°$
$|AC| = 10$ br
$|BD| = 4$ br
$\Rightarrow A(ABD) = ?$

A) 40 B) $20\sqrt{3}$ C) 20 D) $10\sqrt{3}$ E) 10

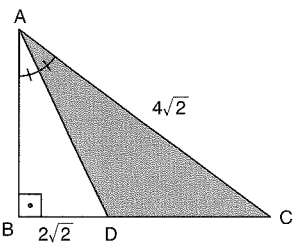
13.



$m(\widehat{ABC}) = 45°$
$|AB| = 8\sqrt{2}$ br
$|AC| = 10$ br
$\Rightarrow A(ABC) = ?$

A) $4\sqrt{2}$ B) 6 C) 8 D) 12 E) 16

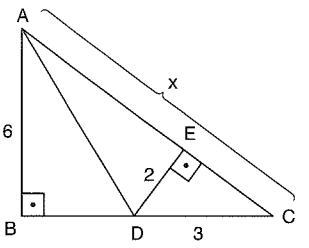
14.



$[AB] \perp [BC]$
$m(\widehat{BAD}) = m(\widehat{DAC})$
$|BD| = 2\sqrt{2}$ br
$|AC| = 4\sqrt{2}$ br
$\Rightarrow A(ADC) = ?$

A) 4 B) $4\sqrt{2}$ C) 8 D) $8\sqrt{2}$ E) 16

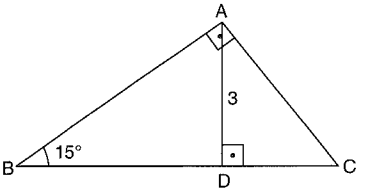
15.



$[AB] \perp [BC]$
$[DE] \perp [AC]$
$|AB| = 6$ br
$|DC| = 3$ br
$|DE| = 2$ br
$\Rightarrow |AC| = x = ?$

A) 9 B) 10 C) 12 D) 15 E) 18

16.

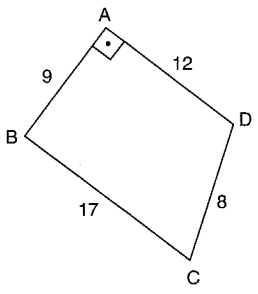


$[BA] \perp [AC]$
$[AD] \perp [BC]$
$m(\widehat{ABC}) = 15°$
$|AD| = 3$ br
$\Rightarrow A(ABC) = ?$

A) 6 B) 12 C) $\frac{27}{2}$ D) 18 E) 36

PUZA YAYINLARI

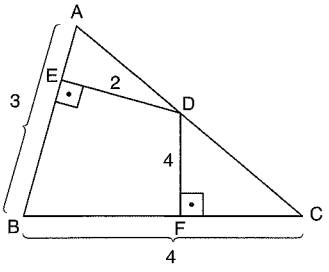
1.



[BA] ⊥ [AD]
|AB| = 9 br
|AD| = 12 br
|BC| = 17 br
|CD| = 8 br
⇒ A(ABCD) = ?

A) 114 B) 122 C) 132 D) 144 E) 160

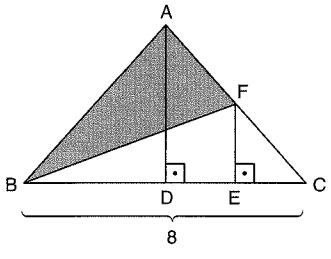
2.



[DE] ⊥ [AB]
[DF] ⊥ [BC]
|DE| = 2 br
|DF| = |BC| = 4 br
|AB| = 3 br
⇒ A(ABC) =?

A) 7 B) 8 C) 10 D) 11 E) 22

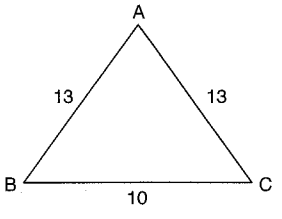
3.



[AD] ⊥ [BC]
[FE] ⊥ [BC]
|BC| = 8 br
|AD| = 5 br
|FE| = 2 br
⇒ A(ABF) =?

A) 24 B) 20 C) 16 D) 12 E) 8

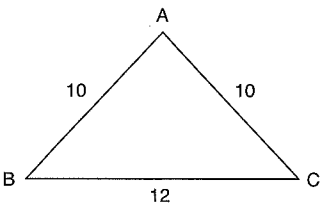
3.



|AB| = |AC| = 13 br
|BC| = 10 br
⇒ A(ABC) =?

A) 20 B) 30 C) 45 D) 60 E) 130

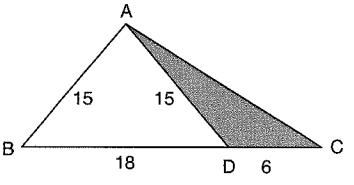
5.



|AB| = |AC| = 10 br
|BC| = 12 br
⇒ A(ABC) =?

A) 120 B) 96 C) 60 D) 48 E) 24

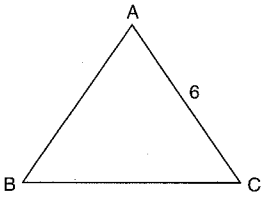
6.



|AB| = |AD| = 15 br
|BD| = 18 br
|DC| = 6 br
⇒ A(ADC) =?

A) 45 B) 40 C) 36 D) 15 E) 12

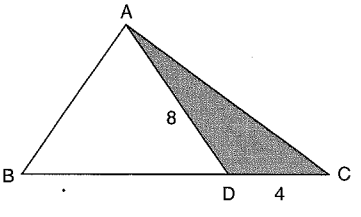
7.



ABC eşkenar üçgen
ABC equilateral triangle
|AC| = 6 br
⇒ A(ABC) =?

A) $36\sqrt{3}$ B) 36 C) $12\sqrt{3}$ D) $9\sqrt{3}$ E) 12

8.

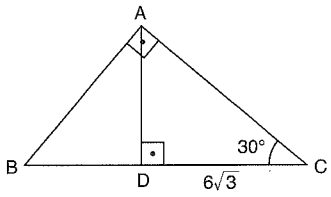


ABD eşkenar üçgen
ABD equilateral triangle
|DC| = 4 br
|AD| = 8 br
⇒ A(ADC) =?

A) 64 B) 32 C) $16\sqrt{3}$ D) $12\sqrt{3}$ E) $8\sqrt{3}$

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

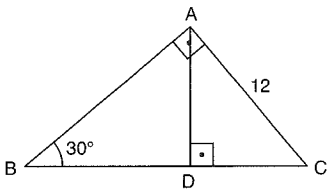
9.



$[BA] \perp [AC]$
$[AD] \perp [BC]$
$m(\widehat{ACB}) = 30°$
$|DC| = 6\sqrt{3}$ br
$\Rightarrow A(ABC) = ?$

A) $84\sqrt{3}$ B) $42\sqrt{3}$ C) $24\sqrt{3}$ D) $16\sqrt{3}$ E) $12\sqrt{3}$

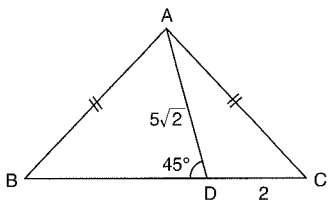
10.



$[BA] \perp [AC]$
$[AD] \perp [BC]$
$m(\widehat{ABC}) = 30°$
$|AC| = 12$ br
$\Rightarrow A(ABC) = ?$

A) $72\sqrt{3}$ B) 72 C) 36 D) 24 E) $18\sqrt{3}$

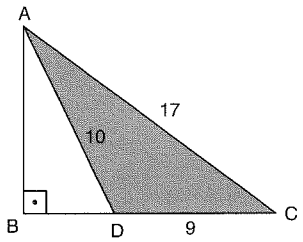
11.



$|AB| = |AC|$
$m(\widehat{ADB}) = 45°$
$|AD| = 5\sqrt{2}$ br
$|DC| = 2$ br
$\Rightarrow A(ABC) = ?$

A) 170 B) 85 C) 70 D) 35 E) 25

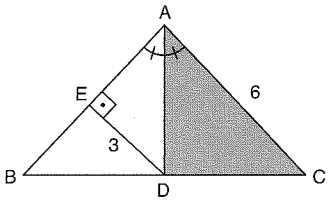
12.



$[AB] \perp [BC]$
$|AC| = 17$ br
$|AD| = 10$ br
$|DC| = 9$ br
$\Rightarrow A(ADC) = ?$

A) 54 B) 45 C) 36 D) 27 E) 18

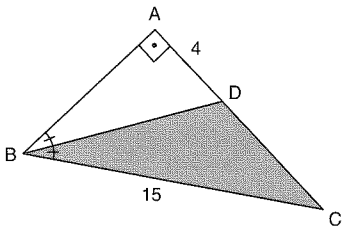
13.



$[DE] \perp [AB]$
$m(\widehat{BAD}) = m(\widehat{DAC})$
$|ED| = 3$ br
$|AC| = 6$ br
$\Rightarrow A(DAC) = ?$

A) 9 B) 12 C) $9\sqrt{3}$ D) 18 E) $18\sqrt{3}$

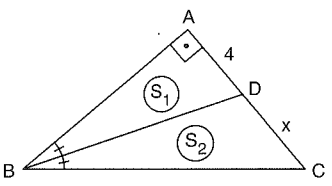
14.



$[BA] \perp [AC]$
$m(\widehat{ABD}) = m(\widehat{DBC})$
$|AD| = 4$ br
$|BC| = 15$ br
$\Rightarrow A(DBC) = ?$

A) $\frac{15}{2}$ B) 15 C) 30 D) $30\sqrt{3}$ E) 60

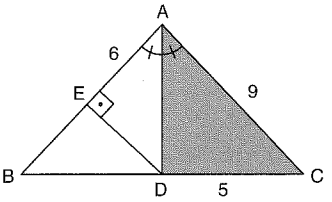
15.



$[BA] \perp [AC]$
$m(\widehat{ABD}) = m(\widehat{DBC})$
$A(ABD) = S_1$
$A(DBC) = S_2$
$S_2 - S_1 = 6$ br^2
$|AD| = 4$ br
$\Rightarrow |DC| = x = ?$

A) 5 B) 6 C) 7 D) 8 E) 9

16.

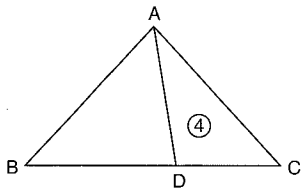


$[DE] \perp [AB]$
$m(\widehat{BAD}) = m(\widehat{DAC})$
$|AC| = 9$ br
$|DC| = 5$ br
$|AE| = 6$ br
$\Rightarrow A(ADC) = ?$

A) 6 B) 9 C) 18 D) $\frac{45}{2}$ E) 45

PUZA YAYINLARI

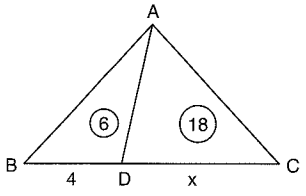
1.



$A(ADC) = 4\ br^2$
$3|DC| = 2|BD|$
$\Rightarrow A(ABC) = ?$

A) $\frac{8}{3}$ B) 6 C) $\frac{32}{3}$ D) 10 E) 12

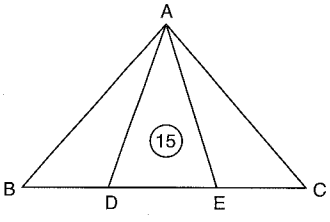
2.



$A(ABD) = 6\ br^2$
$A(ADC) = 18\ br^2$
$|BD| = 4\ br$
$\Rightarrow |DC| = x = ?$

A) $\frac{4}{3}$ B) 4 C) 8 D) 12 E) 15

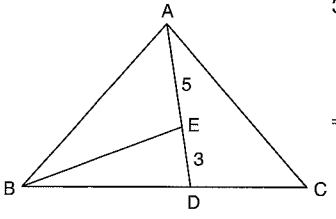
3.



$A(ADE) = 15\ br^2$
$6|BD| = 2|DE| = 3|EC|$
$\Rightarrow A(ABC) = ?$

A) 15 B) 20 C) 30 D) 45 E) 60

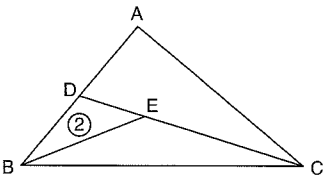
4.



$3|BD| = 2|DC|$
$|AE| = 5\ br$
$|ED| = 3\ br$
$\Rightarrow \frac{A(ADC)}{A(EBD)} = ?$

A) 4 B) 5 C) 6 D) 8 E) 10

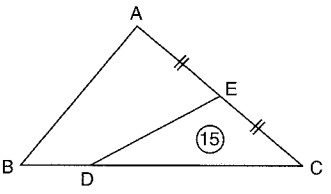
5.



$A(BDE) = 2\ br^2$
$3|AD| = 2|BD|$
$2|DE| = |EC|$
$\Rightarrow A(ABC) = ?$

A) $\frac{11}{3}$ B) 4 C) 5 D) 7 E) 10

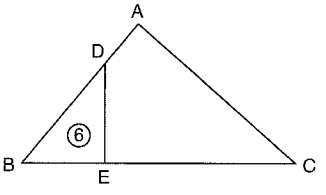
6.



$A(EDC) = 15\ br^2$
$|AE| = |EC|$
$3|BD| = |DC|$
$\Rightarrow A(ABC) = ?$

A) 50 B) 40 C) 30 D) 20 E) 15

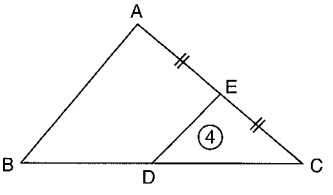
7.



$A(DBE) = 6\ br^2$
$2|AD| = |BD|$
$3|BE| = |EC|$
$\Rightarrow A(ADEC) = ?$

A) 27 B) 30 C) 33 D) 36 E) 39

8.

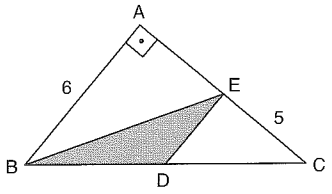


$A(EDC) = 4\ br^2$
$|AE| = |EC|$
$2|BD| = 3|DC|$
$\Rightarrow A(ABC) = ?$

A) 8 B) 10 C) 12 D) 16 E) 20

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

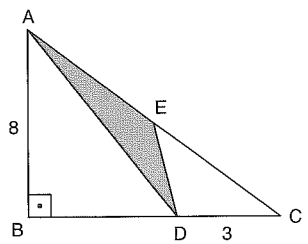
9.



$[BA] \perp [AC]$
$|AB| = 6$ br
$|EC| = 5$ br
$3|BD| = 2|DC|$
$\Rightarrow A(EBD) = ?$

A) 30 B) 15 C) 12 D) 9 E) 6

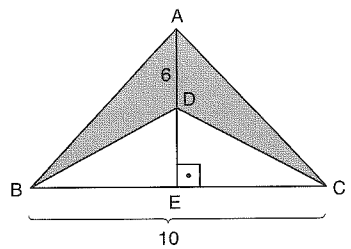
10.



$[AB] \perp [BC]$
$2|AE| = |EC|$
$|AB| = 8$ br
$|DC| = 3$ br
$\Rightarrow A(AED) = ?$

A) 4 B) 6 C) 8 D) 12 E) 15

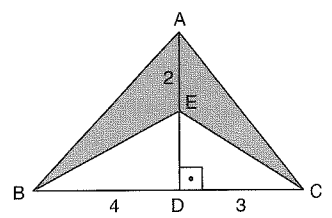
11.



$[AE] \perp [BC]$
$|AD| = 6$ br
$|BC| = 10$ br
$\Rightarrow A(ABDC) = ?$

A) 120 B) 60 C) 45 D) 30 E) 15

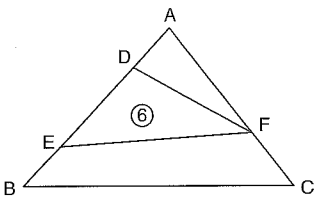
12.



$[AD] \perp [BC]$
$|AE| = 2$ br
$|BD| = 4$ br
$|DC| = 3$ br
$\Rightarrow A(ABEC) = ?$

A) 3 B) 4 C) 6 D) 7 E) 14

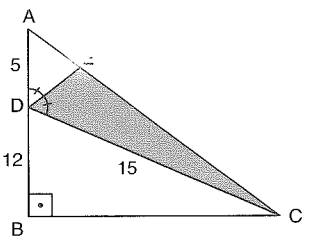
13.



$A(DFE) = 6$ br^2
$2|AD| = |DE| = 2|EB|$
$3|AF| = 2|FC|$
$\Rightarrow A(ABC) = ?$

A) 8 B) 12 C) 15 D) 20 E) 30

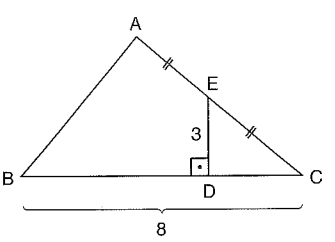
14.



$[AB] \perp [BC]$
$m(\widehat{ADE}) = m(\widehat{EDC})$
$|AD| = 5$ br
$|DC| = 15$ br
$|BD| = 12$ br
$\Rightarrow A(EDC) = ?$

A) 5 B) $\frac{45}{8}$ C) $\frac{135}{8}$ D) $\frac{45}{2}$ E) 45

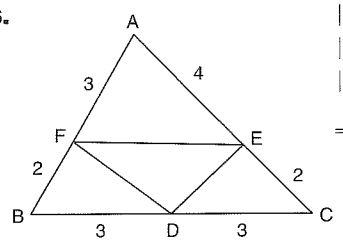
15.



$[ED] \perp [BC]$
$|AE| = |EC|$
$|ED| = 3$ br
$|BC| = 8$ br
$\Rightarrow A(ABC) = ?$

A) 60 B) 48 C) 36 D) 24 E) 12

16.



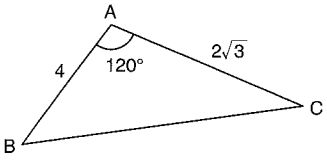
$|AF| = |BD| = |DC| = 3$ br
$|FB| = |EC| = 2$ br
$|AE| = 4$ br
$\Rightarrow \frac{A(FED)}{A(ABC)} = ?$

A) $\frac{1}{5}$ B) $\frac{2}{7}$ C) $\frac{7}{30}$ D) $\frac{7}{15}$ E) $\frac{1}{2}$

PUZA YAYINLARI

www.ztcprep.com

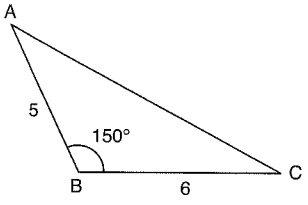
1.



$m(\widehat{BAC}) = 120°$
$|AB| = 4$ br
$|AC| = 2\sqrt{3}$ br
$\Rightarrow A(ABC) = ?$

A) 15 B) $8\sqrt{3}$ C)12 D) $4\sqrt{3}$ E) 6

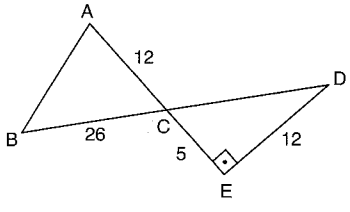
2.



$m(\widehat{ABC}) = 150°$
$|AB| = 5$ br
$|BC| = 6$ br
$\Rightarrow A(ABC) = ?$

A) $\frac{15}{2}$ B) $\frac{15\sqrt{3}}{2}$ C)15 D) $15\sqrt{3}$ E) 30

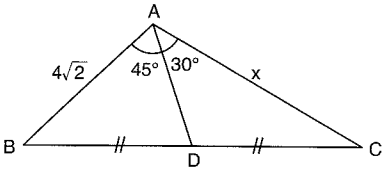
3.



$[DE] \perp [AE]$
$|AC| = |ED| = 12$ br
$|BC| = 26$ br
$|CE| = 5$ br
$\Rightarrow A(ABC) = ?$

A) 144 B) 81 C) 72 D) 69 E) 60

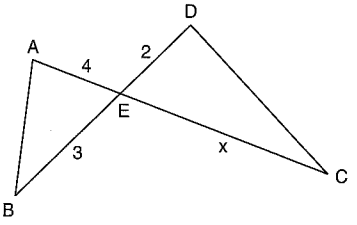
4.



$|BD| = |DC|$
$m(\widehat{BAD}) = 45°$
$m(\widehat{DAC}) = 30°$
$|AB| = 4\sqrt{2}$ br
$\Rightarrow |AC| = x = ?$

A) 2 B) 4 C) 6 D) 8 E) 12

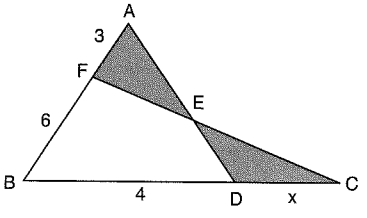
5.



$A(ABE) = A(ECD)$
$|ED| = 2$ br
$|AE| = 4$ br
$|BE| = 3$ br
$\Rightarrow |EC| = x = ?$

A) 12 B) 8 C) 6 D) 3 E) $\frac{3}{2}$

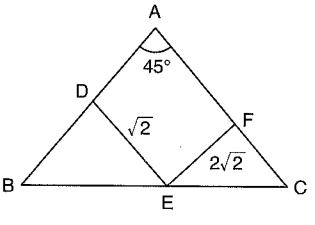
6.



$A(AFE) = A(EDC)$
$|AF| = 3$ br
$|BF| = 6$ br
$|BD| = 4$ br
$\Rightarrow |DC| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 6

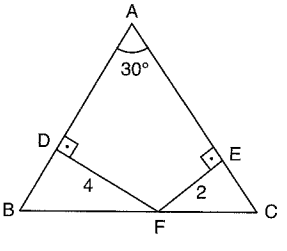
7.



AFED paralelkenar
AFED parallelogram
$|AB| = |AC|$
$m(\widehat{BAC}) = 45°$
$|DE| = \sqrt{2}$ br
$|FE| = 2\sqrt{2}$ br
$\Rightarrow A(ABC) = ?$

A) 4 B) $4\sqrt{2}$ C) $\frac{9\sqrt{2}}{2}$ D) $6\sqrt{2}$ E) $9\sqrt{2}$

8.

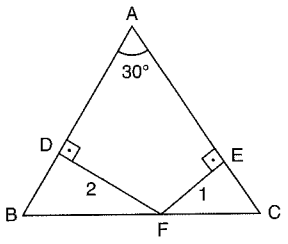


$[FD] \perp [AB]$
$[FE] \perp [AC]$
$|AB| = |AC|$
$m(\widehat{BAC}) = 30°$
$|FD| = 2$ br
$|FE| = 4$ br
$\Rightarrow A(ABC) = ?$

A) 9 B) 12 C) $9\sqrt{2}$ D) 18 E) 36

PUZA YAYINLARI

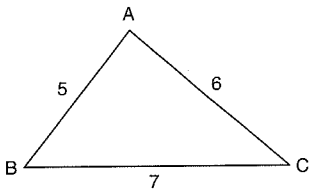
9.



$m(\widehat{BAC}) = 30°$
$|AB| = |AC|$
$[FE] \perp [AC]$
$[FD] \perp [AB]$
$|DF| = 2$ br
$|EF| = 1$ br
$\Rightarrow A(ABC) = ?$

A) $36\sqrt{3}$ B) 36 C) 27 D) $18\sqrt{3}$ E) 9

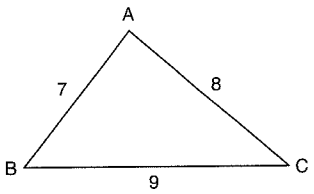
10.



$|AB| = 5$ br
$|AC| = 6$ br
$|BC| = 7$ br
$\Rightarrow A(ABC) = ?$

A) $2\sqrt{6}$ B) $3\sqrt{6}$ C) $6\sqrt{6}$ D) $12\sqrt{3}$ E) $24\sqrt{3}$

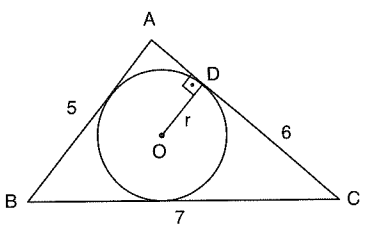
11.



$|AB| = 7$ br
$|AC| = 8$ br
$|BC| = 9$ br
$\Rightarrow A(ABC) = ?$

A) $6\sqrt{5}$ B) $6\sqrt{7}$ C) $9\sqrt{5}$ D) $12\sqrt{7}$ E) $12\sqrt{5}$

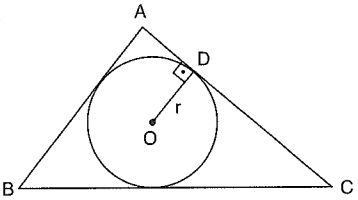
12.



$[OD] \perp [AC]$
$|AB| = 5$ br
$|AC| = 6$ br
$|BC| = 7$ br
$\Rightarrow |OD| = r = ?$

A) $\sqrt{6}$ B) $2\sqrt{3}$ C) $\frac{2\sqrt{6}}{3}$ D) $2\sqrt{6}$ E) $3\sqrt{6}$

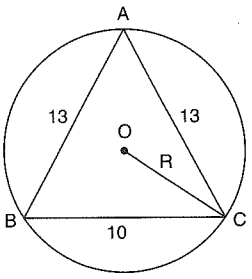
13.



$[OD] \perp [AC]$
$|AB| = |AC| = 10$ br
$|BC| = 12$ br
$\Rightarrow |OD| = r = ?$

A) 5 B) 4 C) 3 D) 2 E) 1

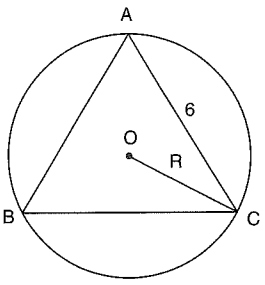
14.



$|AB| = |AC| = 13$ br
$|BC| = 10$ br
$\Rightarrow |OC| = R = ?$

A) $\frac{5}{72}$ B) $\frac{24}{169}$ C) $\frac{169}{24}$ D) $\frac{72}{5}$ E) 12

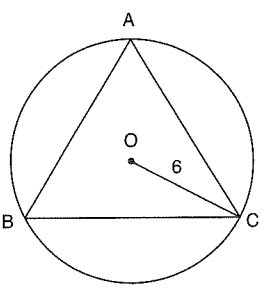
15.



ABC eşkenar üçgen
ABC equilateral triangle
$|AC| = 6$ br
$\Rightarrow |OC| = R = ?$

A) $\sqrt{3}$ B) 2 C) 3 D) $2\sqrt{3}$ E) $4\sqrt{3}$

16.



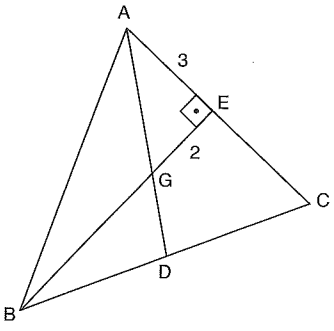
ABC eşkenar üçgen
ABC equilateral triangle
$|OC| = 6$ br
$\Rightarrow A(ABC) = ?$

A)18 B) $18\sqrt{3}$ C) 27 D) $27\sqrt{3}$ E) 36

PUZA YAYINLARI

www.ztcprep.com

1.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

[BE] ⊥ [AC]

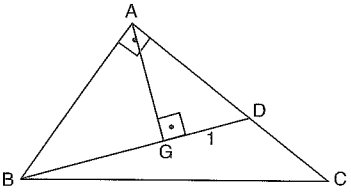
|GE| = 2 br

|AE| = 3 br

⇒ A(ABC) = ?

A) 6 B) 8 C)12 D) 18 E) 36

2.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

[BA] ⊥ [AC]

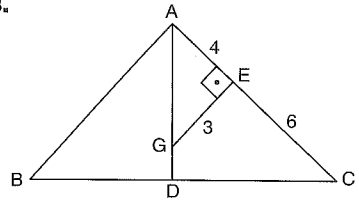
[AG] ⊥ [BD]

|GD| = 1 br

⇒ A(ABC) = ?

A) $\sqrt{2}$ B) $2\sqrt{2}$ C)$3\sqrt{2}$ D) $6\sqrt{2}$ E) $12\sqrt{2}$

3.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

[AC] ⊥ [GE]

|AE| = 4 br

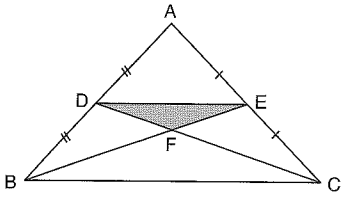
|GE| = 3 br

|EC| = 6 br

⇒ A(ABC) = ?

A) 15 B) 30 C) 45 D) 60 E) 90

4.



|AD| = |DB|

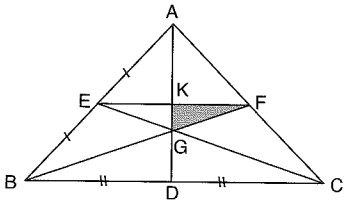
|AE| = |EC|

A(DEF) = 4 br^2

⇒ A(ABC) = ?

A) 16 B) 24 C) 36 D) 48 E) 96

5.



|AE| = |EB|

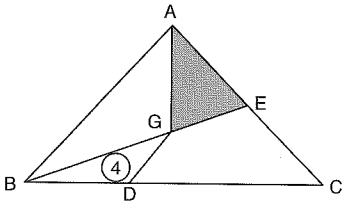
|BD| = |DC|

A(ABC) = 96 br^2

⇒ A(KFG) = ?

A) 4 B) $\frac{16}{3}$ C) 12 D) 16 E) 18

6.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

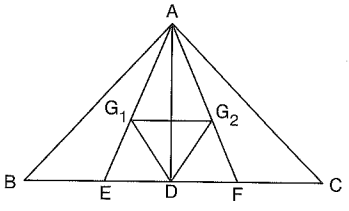
3|BD| = |DC|

A(GBD) = 4 br^2

⇒ A(AGE) = ?

A) 2 B) 4 C) 6 D) 8 E) 12

7.



G_1, ABD üçgeninin ağırlık merkezi

G_1, center of gravity ABD triangle's

G_2, ADC üçgeninin ağırlık merkezi

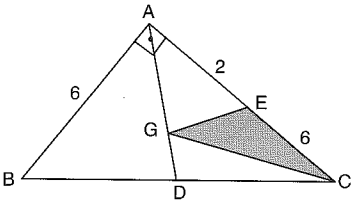
G_2, center of gravity ADC triangle's

A(G_1DG_2) = 6 br^2

⇒ A(ABC) = ?

A) 54 B) 48 C) 36 D) 27 E) 18

8.



G, ABC üçgeninin ağırlık merkezi

G, center of gravity ABC triangle's

[BA] ⊥ [AC]

|AB| = |EC| = 6 br

|AE| = 2 br

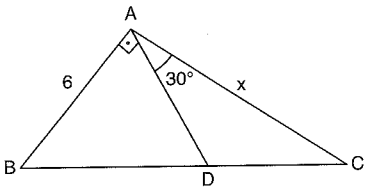
⇒ A(EGC) = ?

A) 2 B) 4 C) 6 D) 8 E) 12

PUZA YAYINLARI

www.ztcprep.com

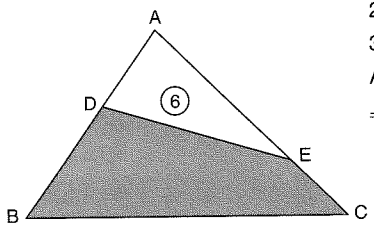
9.



$[BA] \perp [AD]$
$m(\widehat{DAC}) = 30°$
$|BD| = 3|DC|$
$|AB| = 6$ br
$\Rightarrow |AC| = x = ?$

A) 2 B) 4 C) $4\sqrt{2}$ D) 6 E) 12

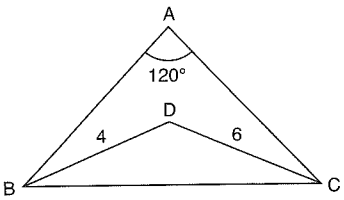
10.



$2|AD| = |BD|$
$3|EC| = 2|AE|$
$A(ADE) = 6$ br^2
$\Rightarrow A(DECB) = ?$

A) 24 B) 15 C) 9 D) 6 E) 5

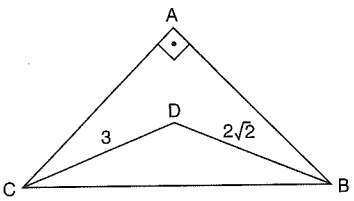
11.



D, iç teget çemberin merkezi
D, central point of the incircle
$m(\widehat{BAC}) = 120°$
$|BD| = 4$ br
$|DC| = 6$ br
$\Rightarrow A(BDC) = ?$

A) 6 B) $6\sqrt{3}$ C) 12 D) $12\sqrt{3}$ E) 24

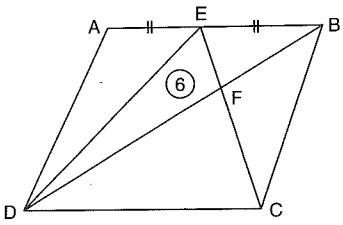
12.



D, iç teget çemberin merkezi
D, central point of the incircle
$m(\widehat{BAC}) = 90°$
$|DC| = 3$ br
$|DB| = 2\sqrt{2}$ br
$\Rightarrow A(BDC) = ?$

A) $\frac{3\sqrt{2}}{2}$ B) 3 C) $3\sqrt{2}$ D) 6 E) $6\sqrt{2}$

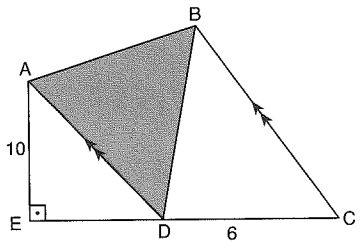
13.



ABCD parelelkenar
ABCD parallelogram
$|AE| = |EB|$
$A(EFD) = 6$ br^2
$\Rightarrow A(EFB) = ?$

A) 3 B) 6 C) 9 D) 12 E) 15

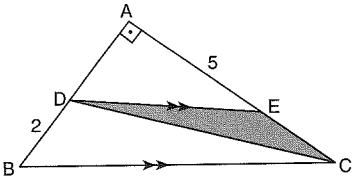
14.



$[AE] \perp [EC]$
$[AD] // [BC]$
$|AE| = 10$ br
$|DC| = 6$ br
$\Rightarrow A(ABD) = ?$

A) 15 B) 30 C) 45 D) 60 E) 120

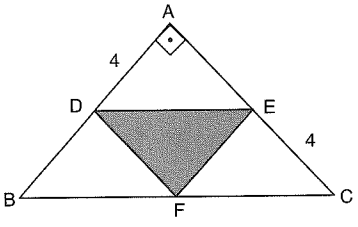
15.



$[BA] \perp [AC]$
$[DE] // [BC]$
$|AE| = 5$ br
$|BD| = 2$ br
$\Rightarrow A(DEC) = ?$

A) 25 B) 20 C) 15 D) 10 E) 5

16.



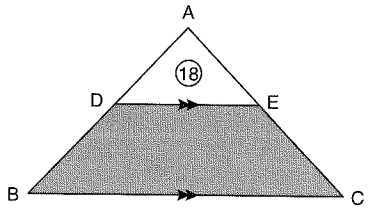
$[BA] \perp [AC]$
$[DE] // [BC]$
$|AD| = |EC| = 4$ br
$\Rightarrow A(DEF) = ?$

A) 2 B) 4 C) 8 D) 12 E) 16

PUZA YAYINLARI

www.ztcprep.com

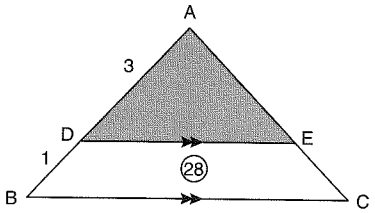
1.



$[DE] \parallel [BC]$
$5|DE| = 3|BC|$
$A(ADE) = 18\ br^2$
$\Rightarrow A(DECB) = ?$

A) 9 B) 12 C)16 D) 30 E) 32

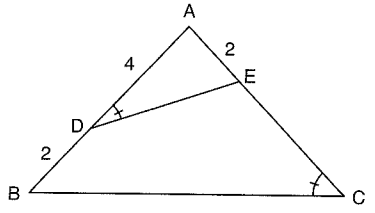
2.



$[DE] \parallel [BC]$
$|AD| = 3|BD| = 3\ br$
$A(DECB) = 28\ br^2$
$\Rightarrow A(ADE) = ?$

A) 45 B) 36 C) 27 D) 21 E) 9

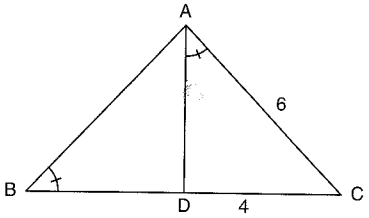
3.



$m(\widehat{ADE}) = m(\widehat{ACB})$
$|AE| = |BD| = 2\ br$
$|AD| = 4\ br$
$\Rightarrow \frac{A(ADE)}{A(DECB)} = ?$

A) 1 B) $\frac{1}{2}$ C) $\frac{1}{3}$ D) $\frac{1}{8}$ E) $\frac{1}{9}$

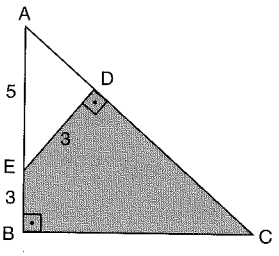
4.



$m(\widehat{DAC}) = m(\widehat{ABC})$
$|AC| = 6\ br$
$|DC| = 4\ br$
$\Rightarrow \frac{A(ADC)}{A(ABD)} = ?$

A) $\frac{4}{9}$ B) $\frac{2}{3}$ C) $\frac{4}{5}$ D) $\frac{3}{2}$ E) 2

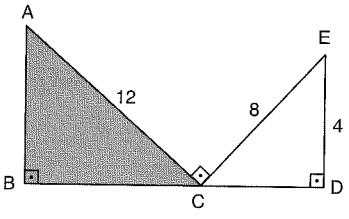
5.



$[AB] \perp [BC]$
$[ED] \perp [AC]$
$|ED| = |EB| = 3\ br$
$|AE| = 5\ br$
$\Rightarrow A(EDCB) = ?$

A) 42 B) 36 C) 27 D) 18 E) 9

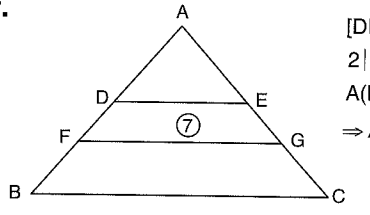
6.



$[AB] \perp [BD]$
$[AC] \perp [CE]$
$[BD] \perp [ED]$
$|EC| = 8\ br$
$|ED| = 4\ br$
$|AC| = 12\ br$
$\Rightarrow A(ABC) = ?$

A) $36\sqrt{3}$ B) 36 C) $18\sqrt{3}$ D) 18 E) 9

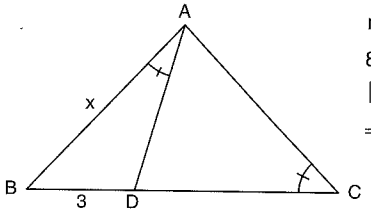
7.



$[DE] \parallel [FG] \parallel [BC]$
$2|AD| = 6|FD| = 3|FB|$
$A(DEGF) = 7\ br^2$
$\Rightarrow A(ADE) + A(FGCB) = ?$

A) 40 B) 31 C) 30 D) 29 E) 20

8.

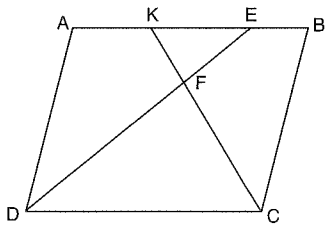


$m(\widehat{BAD}) = m(\widehat{ACB})$
$8 \cdot A(ABD) = A(ADC)$
$|BD| = 3\ br$
$\Rightarrow |AB| = x = ?$

A) 1 B) 6 C) 9 D) 12 E) 24

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

9.



ABCD paralelkenar

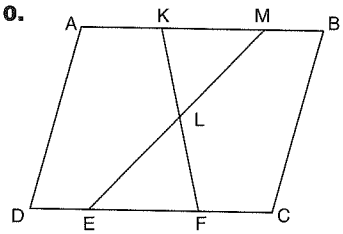
ABCD parallelogram

$2|AK| = 2|EB| = |KE|$

$\Rightarrow \dfrac{A(KEF)}{A(DFC)} = ?$

A) $\frac{1}{4}$ B) $\frac{1}{2}$ C) 1 D) 2 E) 4

10.



ABCD paralelkenar

ABCD parallelogram

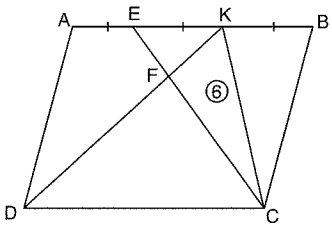
$6|BM| = 2|KM| = 3|AK|$

$2|DE| = 2|FC| = |EF|$

$\Rightarrow \dfrac{A(KML)}{A(EFL)} = ?$

A) $\frac{2}{9}$ B) $\frac{1}{4}$ C) 1 D) $\frac{3}{2}$ E) 4

11.



ABCD paralelkenar

ABCD parallelogram

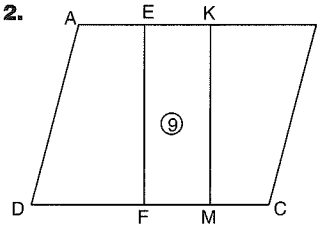
$|AE| = |EK| = |KB|$

$A(FKC) = 6$ br

$\Rightarrow A(ABCD) = ?$

A) 18 B) 24 C) 32 D) 48 E) 60

12.



ABCD paralelkenar

ABCD parallelogram

$3|AE| = 6|EK| = 2|KB|$

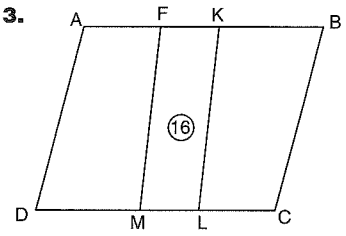
$2|DF| = 3|FM| = 6|MC|$

$A(EKMF) = 9$ br^2

$\Rightarrow A(ABCD) = ?$

A) 18 B) 27 C) 36 D) 45 E) 54

13.



ABCD paralelkenar

ABCD parallelogram

$|AF| = |KB| = 2|FK|$

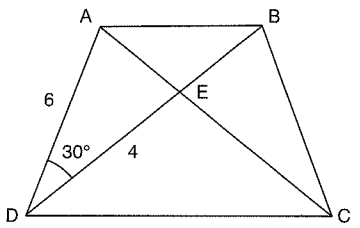
$2|DM| = 3|ML| = 6|LC|$

$A(FKLM) = 16$ br^2

$\Rightarrow A(ABCD) = ?$

A) 30 B) $\frac{125}{4}$ C) $\frac{225}{4}$ D) 60 E) 90

14.



[AB] // [DC]

$2|AB| = |DC|$

$m(\widehat{ADB}) = 30°$

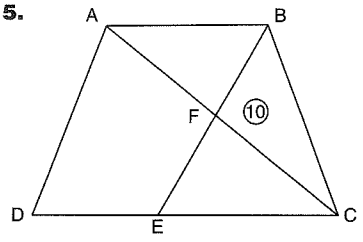
$|AD| = 6$ br

$|DE| = 4$ br

$\Rightarrow A(ABCD) = ?$

A) $9\sqrt{3}$ B) 18 C) $18\sqrt{3}$ D) 27 E) $27\sqrt{3}$

15.



[AB] // [DC]

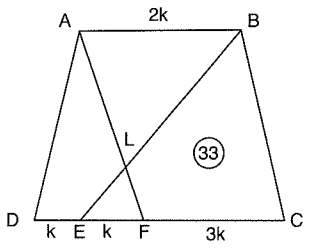
$6|AB| = 3|EC| = 2|DE|$

$A(BFC) = 10$ br^2

$\Rightarrow A(ABCD) = ?$

A) 120 B) 90 C) 75 D) 45 E) 30

16.



[AB] // [DC]

$|DE| = |EF| = k$

$|AB| = 2k$

$|EF| = 3k$

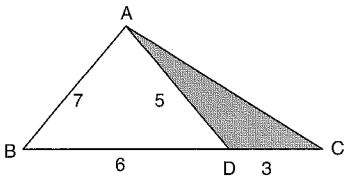
$A(LBCF) = 33$ br^2

$\Rightarrow A(ABCD) = ?$

A) 99 B) 90 C) 77 D) 63 E) 54

PUZA YAYINLARI

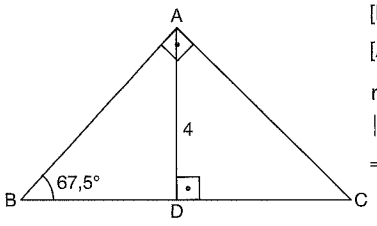
1.



$|AB| = 7$ br
$|AD| = 5$ br
$|BD| = 6$ br
$|DC| = 3$ br
$\Rightarrow A(ADC) = ?$

A) $12\sqrt{6}$ B) $15\sqrt{2}$ C) $6\sqrt{6}$ D) $4\sqrt{6}$ E) $3\sqrt{6}$

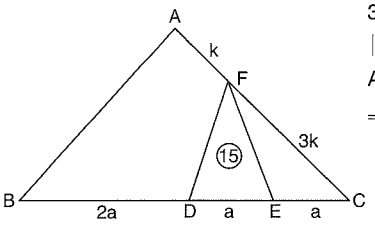
2.



$[BA] \perp [AC]$
$[AD] \perp [BC]$
$m(\widehat{ABC}) = 67,5°$
$|AD| = 4$ br
$\Rightarrow A(ABC) = ?$

A) $4\sqrt{2}$ B) 6 C) $8\sqrt{2}$ D) 16 E) $16\sqrt{2}$

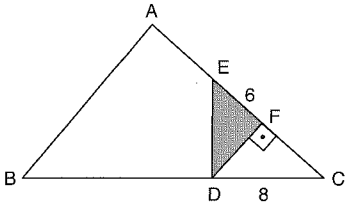
3.



$3|AF| = |FC|$
$|BD| = 2|DE| = 2|EC|$
$A(FDE) = 15$ br^2
$\Rightarrow A(ABC) = ?$

A) 45 B) 60 C) 65 D) 75 E) 80

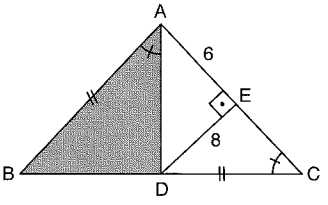
4.



ABC eşkenar üçgen
ABC equilateral triangle
$|EF| = 6$ br
$|DC| = 8$ br
$[DF] \perp [AC]$
$\Rightarrow A(EFD) = ?$

A) 12 B) $12\sqrt{3}$ C) 24 D) $24\sqrt{3}$ E) 48

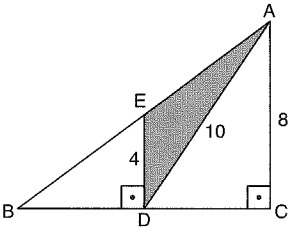
5.



$m(\widehat{BAD}) = m(\widehat{ACB})$
$[DE] \perp [AC]$
$|AB| = |DC|$
$|AE| = 6$ br
$|DE| = 8$ br
$\Rightarrow A(ABD) = ?$

A) 20 B) 24 C) 30 D) 40 E) 48

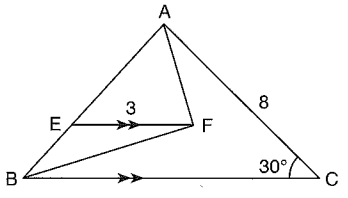
6.



$[AC] \perp [BC]$
$[ED] \perp |BC]$
$|AC| = 8$ br
$|ED| = 4$ br
$|AD| = 10$ br
$\Rightarrow A(EDA) = ?$

A) 30 B) 24 C) 18 D) 12 E) 6

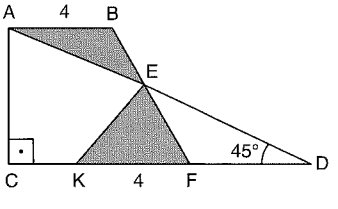
7.



$[EF] \;//\; [BC]$
$m(\widehat{ACB}) = 30°$
$|AC| = 8$ br
$|EF| = 3$ br
$\Rightarrow A(ABF) = ?$

A) $24\sqrt{3}$ B) $12\sqrt{3}$ C) 12 D) $6\sqrt{3}$ E) 6

8.

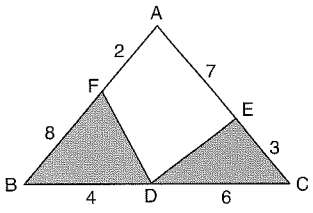


$[AB] \;//\; [CD]$
$[AC] \perp [CD]$
$m(\widehat{ADC}) = 45°$
$|AB| = |KF| = 4$ br
$|AD| = 10\sqrt{2}$ br
$\Rightarrow A(ABE) + A(EKF) = ?$

A) 60 B) 50 C) 40 D) 30 E) 20

PUZA YAYINLARI

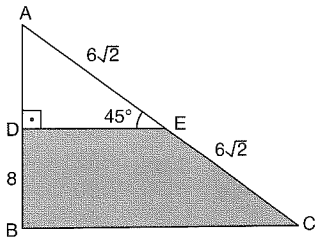
9.



$|BF| = 8$ br
$|AF| = 2$ br
$|AE| = 7$ br
$|EC| = 3$ br
$|DC| = 6$ br
$|BD| = 4$ br
$\Rightarrow A(BFD) + A(ECD) = ?$

A) $25\sqrt{3}$ B) $\frac{29\sqrt{3}}{2}$ C) $\frac{25\sqrt{3}}{2}$ D) $8\sqrt{3}$ E) $\frac{9\sqrt{3}}{2}$

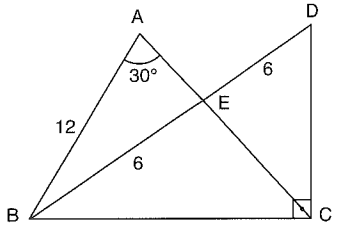
10.



$[ED] \perp [AB]$
$|AE| = |EC| = 6\sqrt{2}$ br
$|BD| = 8$ br
$m(\widehat{AED}) = 45°$
$\Rightarrow A(DECB) = ?$

A) 66 B) 56 C) 54 D) 50 E) 48

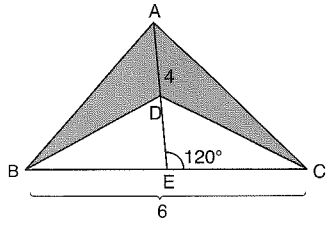
11.



$[DC] \perp [BC]$
$m(\widehat{BAC}) = 30°$
$|DE| = |EB| = 6$ br
$|AB| = 12$ br
$\Rightarrow A(BDC) = ?$

A) 36 B) 27 C) $18\sqrt{3}$ D) 19 E) 9

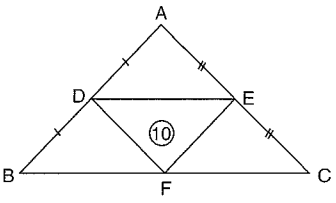
12.



$m(\widehat{AEC}) = 120°$
$|AD| = 4$ br
$|BC| = 6$ br
$\Rightarrow A(ABDC) = ?$

A) 6 B) $4\sqrt{3}$ C) $6\sqrt{3}$ D) 12 E) $12\sqrt{3}$

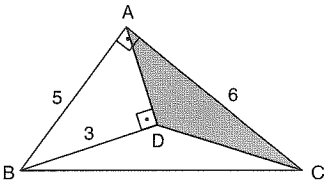
13.



$|AD| = |DB|$
$|AE| = |EC|$
$A(DEF) = 10$ br^2
$\Rightarrow A(ABC) = ?$

A) 20 B) 30 C) 40 D) 60 E) 80

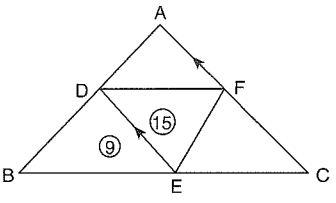
14.



$[BA] \perp [AC]$
$[AD] \perp [DB]$
$|AB| = 5$ br
$|AC| = 6$ br
$|BD| = 3$ br
$\Rightarrow A(ADC) = ?$

A) $\frac{24}{5}$ B) $\frac{48}{5}$ C) 12 D) 15 E) 18

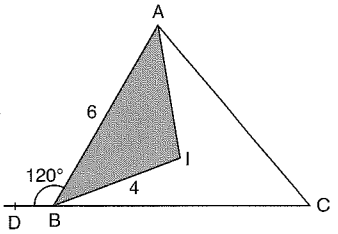
15.



$[DE] // [AC]$
$A(DEF) = 15$ br^2
$A(BDE) = 9$ br^2
$\Rightarrow A(ABC) = ?$

A) 40 B) 48 C) 54 D) 55 E) 64

16.

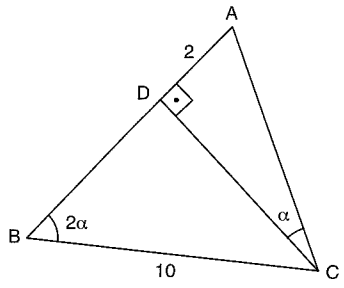


I iç teget çemberin merkezi
I, central point of the incircle
$m(\widehat{ABD}) = 120°$
$|AB| = 6$ br
$|BI| = 4$ br
$\Rightarrow A(AIB) = ?$

A) $6\sqrt{3}$ B) $6\sqrt{2}$ C) $4\sqrt{3}$ D) 6 E) 4

PUZA YAYINLARI

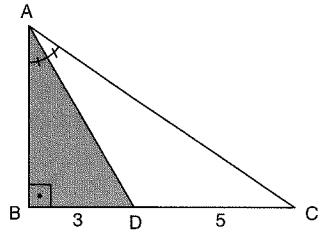
1.



[CD] ⊥ [AB]
$2m(\widehat{ACD}) = m(\widehat{ABC})$
$|AD| = 2$ br
$|BC| = 10$ br
$\Rightarrow A(ABC) = ?$

A) 10 B) 20 C)30 D) 40 E) 60

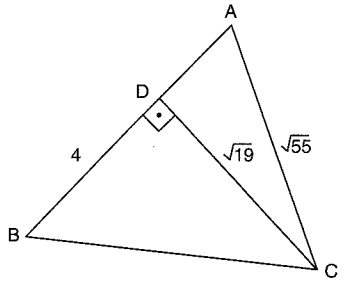
2.



[AB] ⊥ [BC]
$m(\widehat{BAD}) = m(\widehat{DAC})$
$|BD| = 3$ br
$|DC| = 5$ br
$\Rightarrow A(BAD) = ?$

A) $\frac{15}{2}$ B) 9 C) 12 D) 24 E) 48

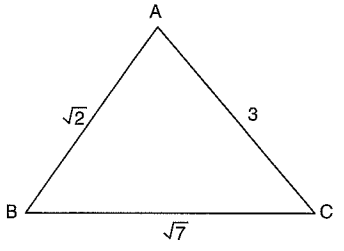
3.



[CD] ⊥ [AB]
$|AC| = \sqrt{55}$ br
$|DC| = \sqrt{19}$ br
$|BD| = 4$ br
$\Rightarrow A(BAC) = ?$

A) $\frac{5}{3}\sqrt{19}$ B) $2\sqrt{19}$ C) $5\sqrt{19}$ D) $10\sqrt{19}$ E) 138

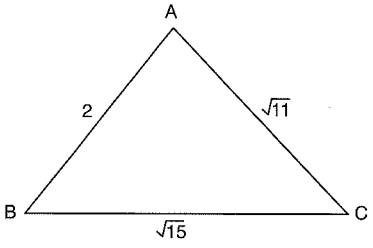
4.



$|AB| = \sqrt{2}$ br
$|AC| = 3$ br
$|BC| = \sqrt{7}$ br
$\Rightarrow A(ABC) = ?$

A) $\frac{3\sqrt{2}}{2}$ B) $\frac{3\sqrt{7}}{2}$ C) $\frac{\sqrt{14}}{2}$ D) $3\sqrt{7}$ E) $7\sqrt{2}$

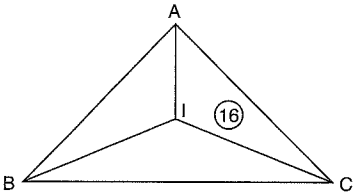
5.



$|AC| = \sqrt{11}$ br
$|AB| = 2$ br
$|BC| = \sqrt{15}$ br
$\Rightarrow A(ABC) = ?$

A) $2\sqrt{15}$ B) $2\sqrt{11}$ C) $\frac{\sqrt{165}}{2}$ D) $\sqrt{15}$ E) $\sqrt{11}$

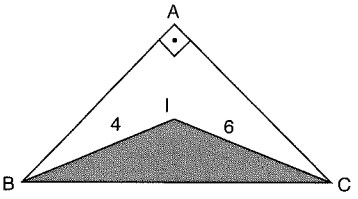
6.



I iç teget çemberin merkezi
I, central point of the incircle
$A(AIC) = 16$ br^2
$|AC| = 4k$
$|BC| = 5k$
$|AB| = 6k$
$\Rightarrow A(ABC) = ?$

A) 32 B) 48 C) 60 D) 64 E) 76

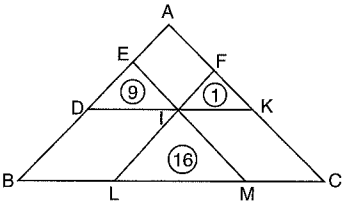
7.



I iç teget çemberin merkezi
I, central point of the incircle
[BA] ⊥ [AC]
$|BI| = 4$ br
$|IC| = 6$ br
$\Rightarrow A(BIC) = ?$

A) $12\sqrt{3}$ B) 12 C) $6\sqrt{3}$ D) $6\sqrt{2}$ E) 6

8.

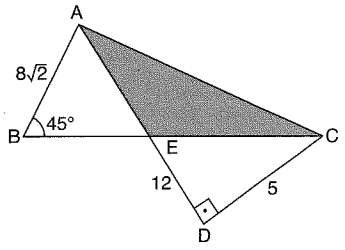


[FL] // [AB]
[EM] // [AC]
[DK] // [BC]
$A(FIK) = 1$ br^2
$A(DEI) = 9$ br^2
$A(ILM) = 16$ br^2
$\Rightarrow A(ABC) = ?$

A) 36 B) 49 C) 64 D) 81 E) 100

PUZA YAYINLARI

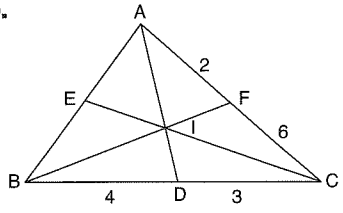
9.



$[AD] \perp [DC]$
$m(\widehat{ABC}) = 45°$
$|AB| = 8\sqrt{2}$ br
$|DC| = 5$ br
$|ED| = 12$ br
$\Rightarrow A(AEC) = ?$

A) $20\sqrt{2}$ B) 42 C) $42\sqrt{2}$ D) 52 E) $52\sqrt{2}$

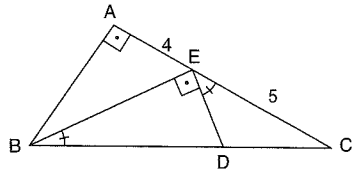
10.



$2|AF| = |BD| = 4$ br
$2|DC| = |FC| = 6$ br
$\Rightarrow \frac{A(EAI)}{A(EBI)} = ?$

A) $\frac{1}{4}$ B) $\frac{1}{2}$ C) 1 D) 2 E) 4

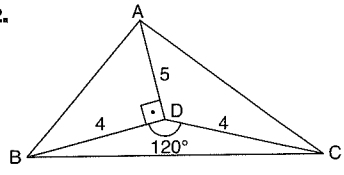
11.



$[BA] \perp [AC]$
$[BE] \perp [ED]$
$m(\widehat{EBC}) = m(\widehat{DEC})$
$|AE| = 4$ br
$|EC| = 5$ br
$\Rightarrow A(ABC) = ?$

A) 10 B) 20 C) 40 D) 48 E) 54

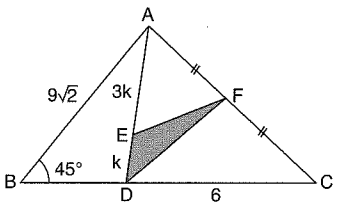
12.



$[AD] \perp [BD]$
$m(\widehat{BDC}) = 120°$
$|BD| = |DC| = 4$ br
$|AD| = 5$ br
$\Rightarrow A(ABC) = ?$

A) $20 + 4\sqrt{3}$ B) $15 + 4\sqrt{3}$ C) $10 + 9\sqrt{3}$
D) $10 + 6\sqrt{3}$ E) 23

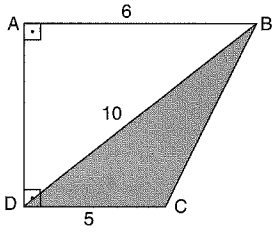
13.



$|AF| = |FC|$
$|AE| = 3|ED|$
$m(\widehat{ABC}) = 45°$
$|AB| = 9\sqrt{2}$ br
$|DC| = 6$ br
$\Rightarrow A(EFD) = ?$

A) 3 B) $\frac{27}{8}$ C) $\frac{27}{2}$ D) 18 E) 27

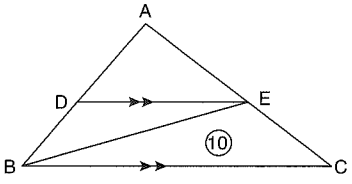
14.



$[BA] \perp [AD]$
$[AD] \perp [DC]$
$|AB| = 6$ br
$2|DC| = |DB| = 10$ br
$\Rightarrow A(BDC) = ?$

A) 40 B) 30 C) 25 D) 20 E) 10

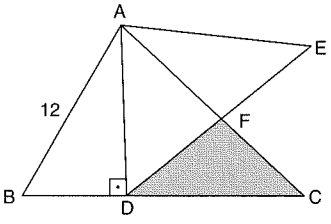
15.



$[DE] \,//\, [BC]$
$|AD| = 2|BD|$
$\Rightarrow A(ADE) = ?$

A) 5 B) $\frac{20}{3}$ C) 10 D) 12 E) $\frac{40}{3}$

16.

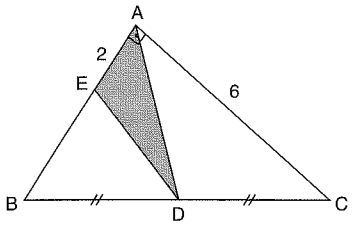


ABC, ADE eşkenar üçgenler
ABC and ADE are equilateral triangles
$[AD] \perp [BC]$
$|AB| = 12$ br
$\Rightarrow A(DFC) = ?$

A) $18\sqrt{3}$ B) 18 C) $9\sqrt{3}$ D) 9 E) $\frac{9\sqrt{3}}{2}$

PUZA YAYINLARI

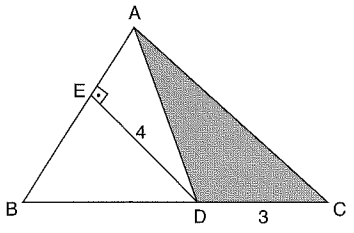
1.



$[BA] \perp [AC]$
$|BD| = |DC|$
$|AE| = 2$ br
$|AC| = 6$ br
$\Rightarrow A(AED) = ?$

A) 3 B) 6 C) 9 D) 12 E) 18

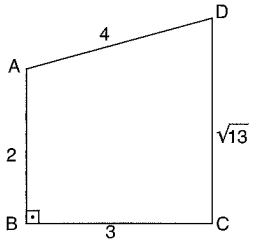
2.



$|AB| = |BD|$
$[DE] \perp [AB]$
$|ED| = 4$ br
$|DC| = 3$ br
$\Rightarrow A(ADC) = ?$

A) 3 B) $3\sqrt{3}$ C) $4\sqrt{3}$ D) 6 E) $6\sqrt{3}$

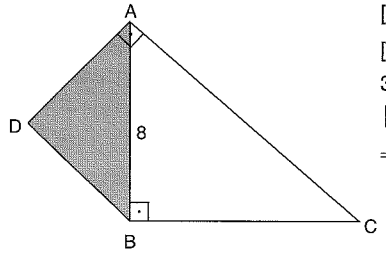
3.



$[AB] \perp [BC]$
$2|AB| = |AD| = 4$ br
$|DC| = \sqrt{13}$ br
$|BC| = 3$ br
$\Rightarrow A(ADCB) = ?$

A) $\frac{9}{2}$ B) 9 C) $4+2\sqrt{3}$
D) $8\sqrt{3}$ E) $16\sqrt{3}$

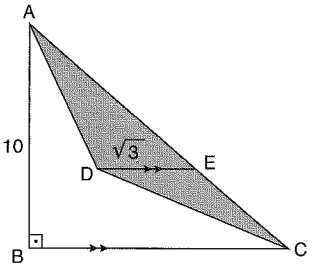
4.



$[AD] \perp [AC]$
$[AB] \perp [BC]$
$3|AD| = |AC|$
$|AB| = 8$ br
$\Rightarrow A(ADB) = ?$

A) $\frac{32}{3}$ B) $\frac{64}{3}$ C) 24 D) 32 E) 64

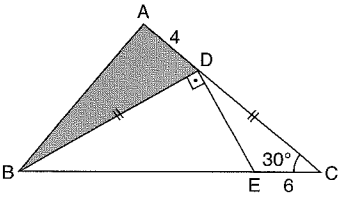
5.



$[AB] \perp [BC]$
$[DE] // [BC]$
$|AB| = 10$ br
$|DE| = \sqrt{3}$ br
$\Rightarrow A(ADC) = ?$

A) 30 B) $20\sqrt{3}$ C) 15 D) $10\sqrt{3}$ E) $5\sqrt{3}$

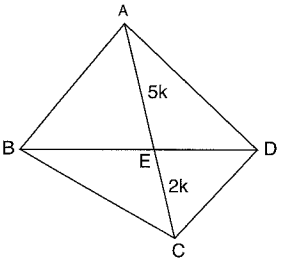
6.



$[BD] \perp [DE]$
$|BD| = |DC|$
$m(\widehat{ACB}) = 30°$
$|EC| = 6$ br
$|AD| = 4$ br
$\Rightarrow A(ABD) = ?$

A) 36 B) $12\sqrt{3}$ C) 18 D) 9 E) $6\sqrt{3}$

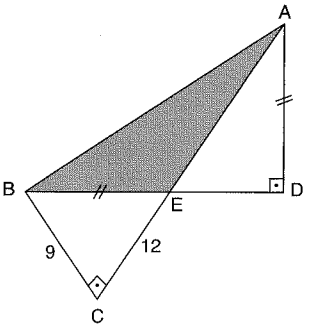
7.



$2|AE| = 5|EC|$
$\Rightarrow \frac{A(ABD)}{A(ABCD)} = ?$

A) $\frac{5}{2}$ B) $\frac{3}{2}$ C) $\frac{5}{7}$ D) $\frac{3}{5}$ E) $\frac{2}{5}$

8.

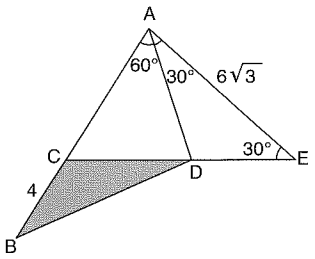


$[AD] \perp [BD]$
$[BC] \perp [CA]$
$|BE| = |AD|$
$|BC| = 9$ br
$|CE| = 12$ br
$\Rightarrow A(ABE) = ?$

A) $\frac{225}{2}$ B) $\frac{135}{2}$ C) $\frac{125}{2}$ D) 54 E) 48

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

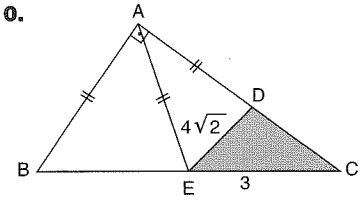
9.



$m(\widehat{DAE}) = 30°$
$m(\widehat{CEA}) = 30°$
$m(\widehat{BAD}) = 60°$
$|BC| = 4$ br
$|AE| = 6\sqrt{3}$ br
$\Rightarrow A(BCD) = ?$

A) $6\sqrt{3}$ B) 9 C) 12 D) $12\sqrt{3}$ E) 24

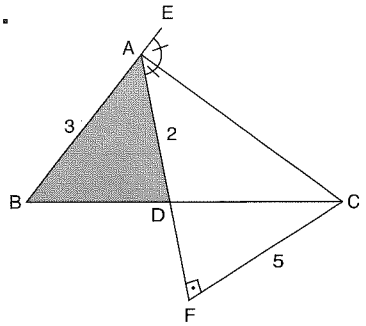
10.



$[BA] \perp [AC]$
$|AB| = |AE| = |AD|$
$|ED| = 4\sqrt{2}$ br
$|EC| = 3$ br
$\Rightarrow A(EDC) = ?$

A) $12\sqrt{2}$ B) 12 C) $6\sqrt{2}$ D) 6 E) $3\sqrt{2}$

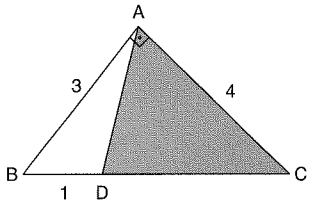
11.



$[AF] \perp [FC]$
$m(\widehat{EAC}) = m(\widehat{FAC})$
$|AD| = 2$ br
$|AB| = 3$ br
$|FC| = 5$ br
$\Rightarrow A(ABD) = ?$

A) $\frac{5}{4}$ B) $\frac{5}{2}$ C) 5 D) $\frac{15}{2}$ E) 10

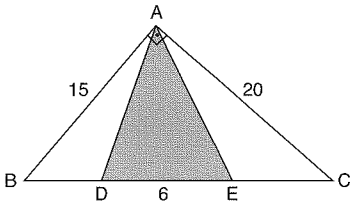
12.



$[BA] \perp [AC]$
$|AB| = 3$ br
$|AC| = 4$ br
$|BD| = 1$ br
$\Rightarrow A(ADC) = ?$

A) $\frac{6}{5}$ B) 2 C) $\frac{12}{5}$ D) $\frac{24}{5}$ E) 8

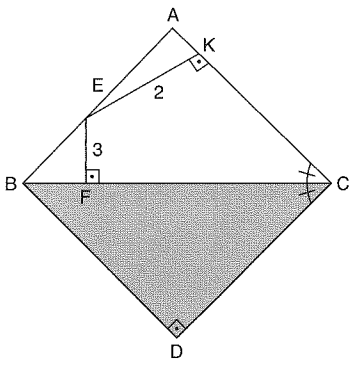
13.



$[BA] \perp [AC]$
$|AB| = 15$ br
$|AC| = 20$ br
$|DE| = 6$ br
$\Rightarrow A(DAE) = ?$

A)75 B) 45 C) 36 D) 30 E) 18

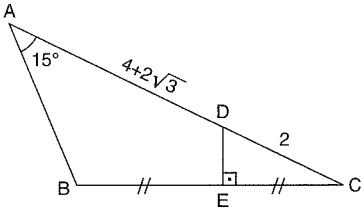
14.



$|AC| = |BC|$
$[EK] \perp [AC]$
$[EF] \perp [BC]$
$[BD] \perp [DC]$
$m(\widehat{ACB}) = m(\widehat{BCD})$
$|EK| = 2$ br
$|EF| = 3$ br
$|BC| = 13$ br
$\Rightarrow A(BDC) = ?$

A) $\frac{65}{2}$ B) 30 C) 60 D) 65 E) 75

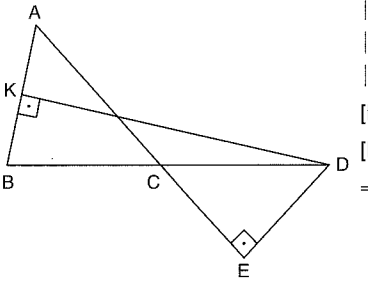
15.



$[DE] \perp [BC]$
$|BE| = |EC|$
$m(\widehat{BAC}) = 15°$
$|DC| = 2$ br
$|AD| = 4 + 2\sqrt{3}$ br
$\Rightarrow A(ABC) = ?$

A) $2+\sqrt{3}$ B) $2+2\sqrt{3}$ C) $4+2\sqrt{3}$
D) $6+2\sqrt{3}$ E) $8+4\sqrt{3}$

16.



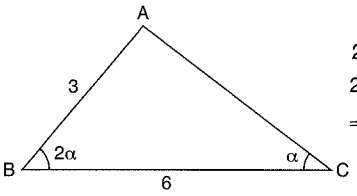
$|AB| = |AC| = 10$ br
$|KD| = 8$ br
$|DE| = 3$ br
$[DK] \perp [AB]$
$[DE] \perp [EA]$
$\Rightarrow A(ABC) = ?$

A) 25 B) 30 C) 40 D) 50 E) 55

PUZA YAYINLARI

www.ztcprep.com

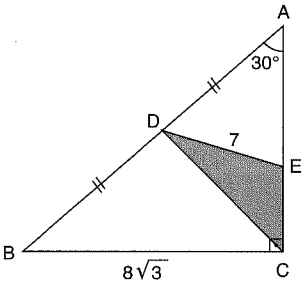
1.



$2m(\widehat{ACB}) = m(\widehat{ABC})$
$2|AB| = |BC| = 6$ br
$\Rightarrow A(ABC) = ?$

A) 3 B) $\frac{9\sqrt{3}}{2}$ C) $6\sqrt{3}$ D) 9 E) $9\sqrt{3}$

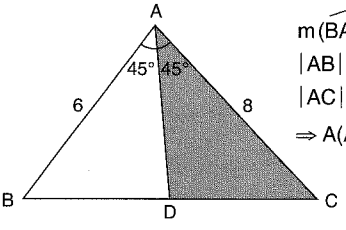
2.



$m(\widehat{BAC}) = 30°$
$[AC] \perp [BC]$
$|AD| = |DB|$
$|BC| = 8\sqrt{3}$ br
$|DE| = 7$ br
$\Rightarrow A(DEC) = ?$

A) 11 B) $11\sqrt{3}$ C) $12\sqrt{3}$ D) $22\sqrt{3}$ E) $24\sqrt{3}$

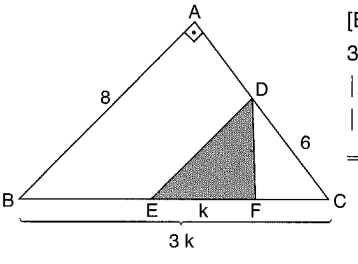
3.



$m(\widehat{BAD}) = m(\widehat{DAC}) = 45°$
$|AB| = 6$ br
$|AC| = 8$ br
$\Rightarrow A(ADC) = ?$

A) 24 B) $\frac{24}{7}$ C) $\frac{72}{7}$ D) $\frac{96}{7}$ E) 48

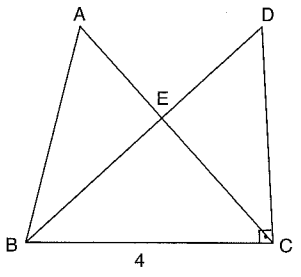
4.



$[BA] \perp [AC]$
$3|EF| = |BC|$
$|AB| = 8$ br
$|DC| = 6$ br
$\Rightarrow A(DEF) = ?$

A) 24 B) 16 C) 12 D) 8 E) 6

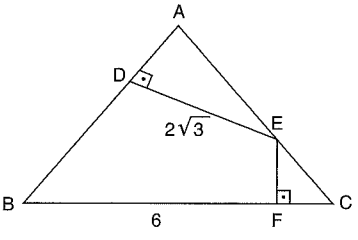
5.



ABC eşkenar üçgen
ABC equilateral triangle
$[DC] \perp [CB]$
$A(AEB) = A(EDC)$
$|BC| = 4$ br
$\Rightarrow |DC| = ?$

A) $2\sqrt{3}$ B) 5 C) $2\sqrt{7}$ D) $4\sqrt{3}$ E) 8

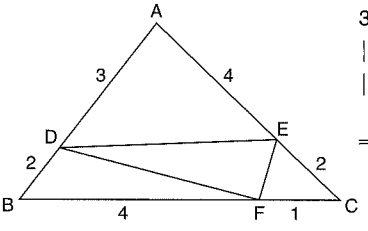
6.



ABC eşkenar üçgen
ABC equilateral triangle
$[ED] \perp [AB]$
$[EF] \perp [BC]$
$|DE| = 2\sqrt{3}$ br
$|BF| = 6$ br
$\Rightarrow A(ABC) = ?$

A) 8 B) $8\sqrt{3}$ C) $12\sqrt{3}$ D) $16\sqrt{3}$ E) 24

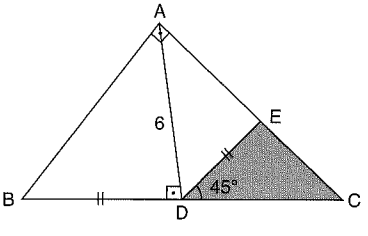
7.



$3|FC| = |AD| = 3$ br
$|AE| = |BF| = 4$ br
$|EC| = |BD| = 2$ br
$\Rightarrow \frac{A(DEF)}{A(ABC)} = ?$

A) $\frac{3}{12}$ B) $\frac{5}{12}$ C) $\frac{8}{75}$ D) $\frac{16}{75}$ E) $\frac{28}{75}$

8.

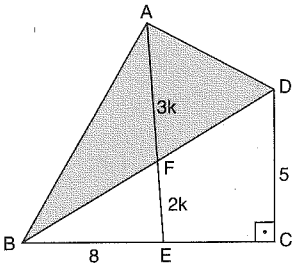


$[BA] \perp [AC]$
$[AD] \perp [BC]$
$m(\widehat{EDC}) = 45°$
$|BD| = |DE|$
$|AD| = 6$ br
$\Rightarrow A(EDC) = ?$

A) 3 B) 6 C) $6\sqrt{2}$ D) $9\sqrt{2}$ E) 36

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

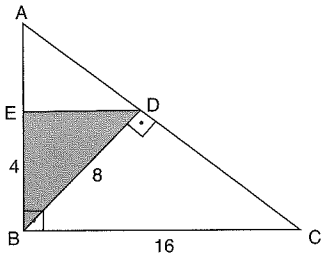
9.



$[DC] \perp [BC]$
$2|AF| = 3|FE|$
$|BE| = 8$ br
$|DC| = 5$ br
$\Rightarrow A(ABD) = ?$

A) 20 B) 30 C) 40 D) 50 E) 60

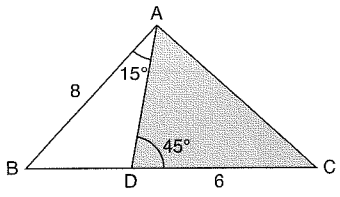
10.



$[AB] \perp [BC]$
$[BD] \perp [AC]$
$|BD| = 8$ br
$|EB| = 4$ br
$|BC| = 16$ br
$\Rightarrow A(EDB) = ?$

A) 4 B) 8 C) $8\sqrt{3}$ D) 16 E) $16\sqrt{3}$

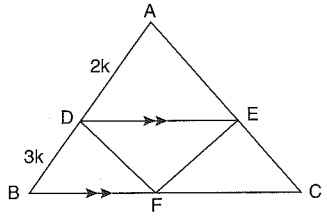
11.



$m(\widehat{BAD}) = 15°$
$m(\widehat{ADC}) = 45°$
$|AB| = 8$ br
$|DC| = 6$ br
$\Rightarrow A(ADC) = ?$

A) $32\sqrt{2}$ B) 32 C) $16\sqrt{2}$ D) 12 E) 8

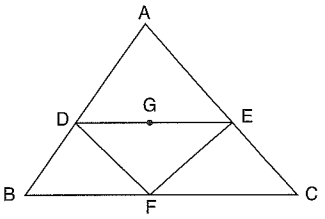
12.



$[DE] // [BC]$
$A(DEF) = 30$ br^2
$3|AD| = 2|DB|$
$\Rightarrow A(ABC) = ?$

A) 50 B) 60 C) 75 D) 90 E) 125

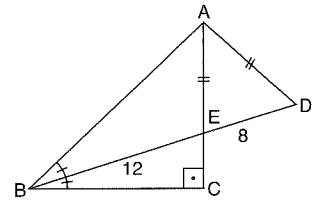
13.



G, ABC üçgeninin ağırlık merkezi
G, center of gravity ABC triangle's
$[DE] // [BC]$
$A(ABC) = 90$ br^2
$\Rightarrow A(DEF) = ?$

A) 10 B) 20 C) 30 D) 45 E) 60

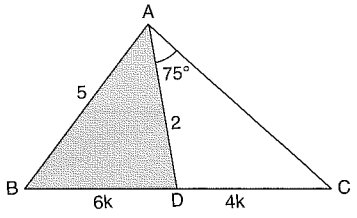
14.



$[AC] \perp [BC]$
$m(\widehat{ABD}) = m(\widehat{DBC})$
$|AE| = |AD|$
$|BE| = 12$ br
$|ED| = 8$ br
$\Rightarrow A(ABD) = ?$

A) 24 B) 40 C) 48 D) 60 E) 80

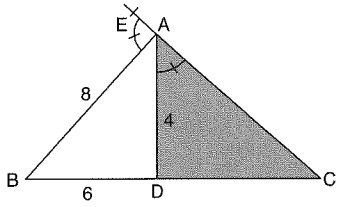
15.



$m(\widehat{DAC}) = 75°$
$|AB| = 5$ br
$|AD| = 2$ br
$|BD| = 6k$
$|DC| = 4k$
$\Rightarrow A(ABD) = ?$

A) $\frac{5}{4}$ B) $\frac{5}{3}$ C) $\frac{5}{2}$ D) $\frac{5\sqrt{3}}{3}$ E) $\frac{5\sqrt{3}}{2}$

16.



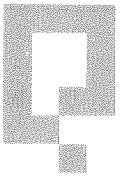
$m(\widehat{DAC}) = m(\widehat{BAE})$
$|AB| = 2|AD| = 8$ br
$|BD| = 6$ br
$\Rightarrow A(ADC) = ?$

A) $5\sqrt{3}$ B) $3\sqrt{15}$ C) 12 D) 16 E) 24

PUZA YAYINLARI

www.ztcprep.com

ZTC زنگنه مجموعه موسسات



ÜÇGENDE ALAN AREAS OF TRIANGLES

Yanıt Anahtarı Answer Key

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	B	A	D	E	C	C	A	B	C	B	E	C	C	A	D

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	D	D	D	D	C	D	E	C	A	D	C	A	C	A	C

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	D	C	A	E	B	B	E	E	A	D	D	E	C	D	C

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	A	A	D	C	B	C	E	E	C	E	C	C	B	D	D

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	C	D	A	D	A	C	B	A	A	B	A	B	E	C

TEST 6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	B	D	C	D	C	D	C	A	C	D	C	D	D	B	D

TEST 7

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	E	E	B	D	D	E	E	C	A	A	C	C	B	E	D

TEST 8

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	B	C	C	E	C	D	C	D	A	E	B	B	D	E	E

TEST 9

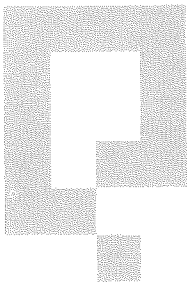
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	D	B	A	E	C	C	A	A	D	B	D	C	B	D	A

TEST 10

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	D	D	D	A	D	D	D	B	B	D	E	B	E	C	B

www.ztcprep.com

ZTC زنگنه
مجموعه موسسات



ÇOKGENLER
POLYGONS

www.ztcprep.com

ÖZELLİK/Property 1

- n kenarlı bir konveks çokgen için
  - * Konveks bir çokgenin çizilebilmesi için en az (2n – 3) tane elemanı bilinmelidir. Bunların en az (n – 2) tanesi uzunluk, (n – 1) tanesi açı olmalıdır.
  - * İç açıları toplamı $(n-2)\cdot 180^\circ$ dir.
  - * Dış açıları toplamı 360° dir.
  - * Bir köşeden çizilen köşegen sayısı (n – 3)'tür.
  - * Bütün köşegenlerin sayısı $\frac{n(n-3)}{2}$'tür.
  - * Bir köşeden çizilen tüm köşegenler, çokgeni (n – 2) tane üçgene ayırır.
- *For a polygon with n edges*
  - * *In order to be drawn a convex polygon, at least (2n–3) elements must be known. At least (n-2) of them must be edge lengths, and (n-1) of them must be angle measurements.*
  - * *The sum of the interior angles is* $(n-2)\cdot 180^\circ$
  - * *The sum of exterior angles is* 360°
  - * *The number of diagonals drawn from a vertex is (n–3)*
  - * *The number of all the diagonals is* $\frac{n(n-3)}{2}$
  - * *The diagonals that are drawn from a vertex to each other corners separate the polygon into (n-2) triangles*

1. İç açıları toplamı 720° olan konveks bir çokgenin kenar sayısı nedir?

What number is the edges of a convex polygon with the sum of interior angles of 720?

6

2. Bir köşeden çizilen tüm köşegen sayısı 7 olan konveks bir çokgenin iç açıları toplamı ve tüm köşegenlerinin sayısı nedir?

what number is diagonals and sum of interior angles a convex polygon which the number of diagonals drown from a vertex is 7?

1440, 35

3. İç açıları toplamı dış açıları toplamının 3 katı olan konveks bir çokgenin tüm köşegen sayısı nedir?

What number is the vertex of a convex polygon which the sum of interior angles is 3 times of the sum of exterior angles?

20

4. Bir konveks çokgen 13 elemanı ile belirlenebiliyor. Bu konveks çokgenin bir köşesinden çizilen tüm köşegenler çokgeni kaç tane üçgene ayırır?

A convex polygon can determine by 13 element. How many triangles are produced by drawing diagonals from a vertex of this convex polygon?

6

5. 11 elemanıyla belirlenebilen bir çokgenin bir köşesinden çizilen bütün köşegenlerin sayısı nedir?

What is the diagonals of a polygon which can be determined by 11 element, drawn from a vertex?

4

6. Dış açıları toplamının iç açıları toplamına oranı $\frac{2}{3}$ olan konveks bir çokgenin kenar sayısı nedir?

What number is the edges of a convex polygon which the sum of exterior angles to the sum of interior angles ratio is $\frac{2}{3}$*?*

5

7. Üç iç açısı 120°, 150°, 70° ve diğer iç açıları birbirine eşit ve 140° olan konveks çokgen kaç kenarlıdır?

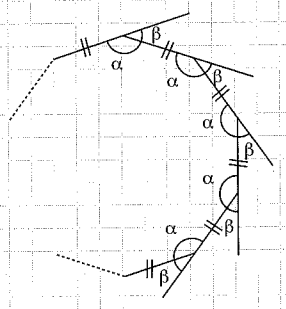
What number is the edges of a convex polygon which three interior angles are 120°, 150°, 70° and the other angles are equal to each other and 140°?

7

PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK | Property 2



$$\alpha = \frac{(n-2)\cdot 180^\circ}{n}$$

$$\beta = \frac{360^\circ}{n}$$

$$\alpha + \beta = 180^\circ$$

1. Bir dış açısı 30° olan düzgün bir çokgenin kenar sayısı nedir?

What number is the edges of a regular polygon have with an exterior angles of 30°?

12

2. Bir iç açısı 135° olan düzgün bir çokgenin tüm köşegen sayısı nedir?

what number is the sum of diagonals of a regular polygon with a intensive angle of 135°?

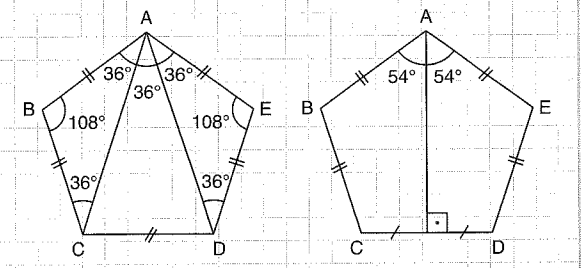
20

3. Bir iç açısı bir dış açısının 5 katı olan düzgün bir çokgenin iç açıları toplamı kaçtır?

What number is the sum of interior angles of a regular polygon which a interior angle is 5 time of an exterior angle?

1800

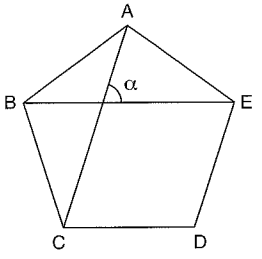
ÖZELLİK | Property 3



Düzgün beşgenin bir iç açısı 108°, dış açısı 72° dir.

One interior angle is 108° and one exterior angle is 72° of a regular pentagon.

1.



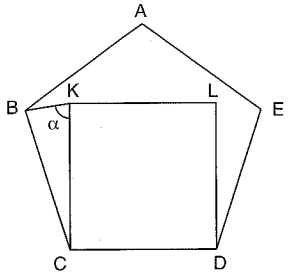
ABCDE düzgün beşgen.

ABCDE is a regular pentagon.

$\Rightarrow \alpha = ?$

72

2.



ABCDE düzgün beşgen, KLDC kare

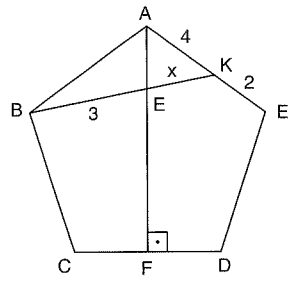
ABCDE is a regular pentagon.

KLDC square

$\Rightarrow \alpha = ?$

81

3.



ABCDE düzgün beşgen

ABCDE is a regular pentagon.

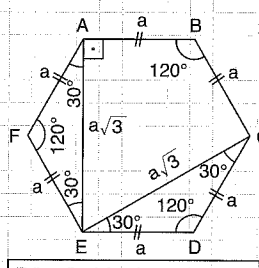
$\Rightarrow x = ?$

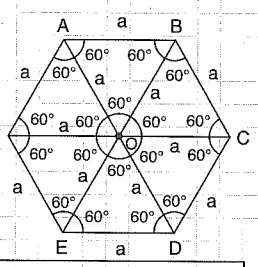
2

PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK/Property 4





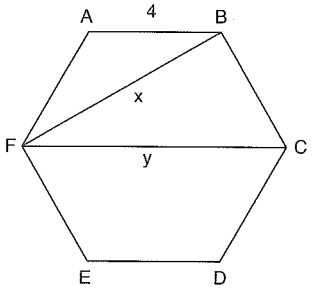
Düzgün bir altıgenin iç açısı 120°, dış açısı 60°'dir.

One interior angle is 120° and one exterior angle is 60° of a regular hexagon.

$$A(OED) = \frac{a^2\sqrt{3}}{4}$$

$$A(ABCDEF) = 6 \cdot \frac{a^2\sqrt{3}}{4}$$

1.



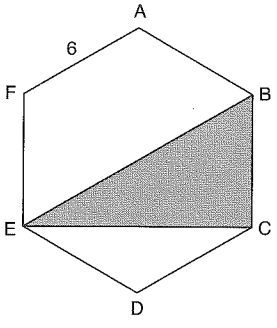
ABCDEF düzgün altıgen

ABCDEF is a regular hexagon

⇒ x = ?
⇒ y = ?

$4\sqrt{3}, 8$

2.



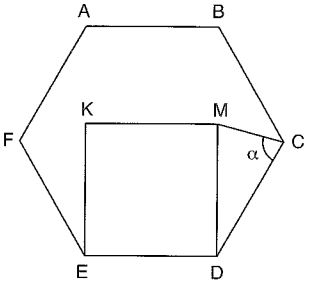
ABCDEF düzgün altıgen

ABCDEF is a regular hexagon

⇒ A(EBC) = ?

$18\sqrt{3}$

3.



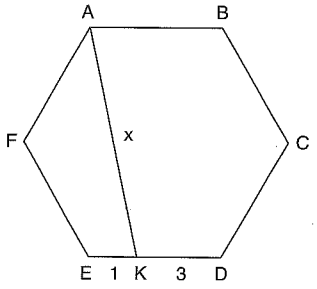
ABCDEF düzgün altıgen, KMDE kare

ABCDEF regular hexagon, KMDE square

⇒ α = ?

75

4.



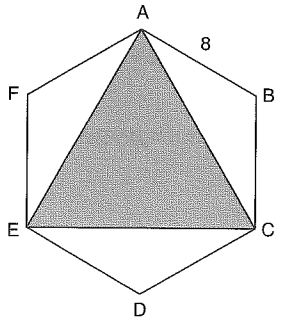
ABCDEF düzgün altıgen

ABCDEF regular hexagon

⇒ |AK| = x = ?

7

5.



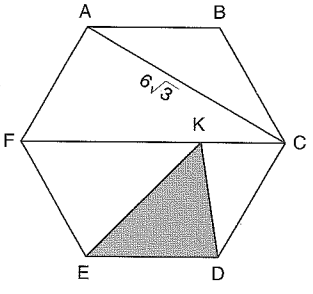
ABCDEF düzgün altıgen

ABCDEF is a regular hexagon

⇒ A(AEC) = ?

$48\sqrt{3}$

6.



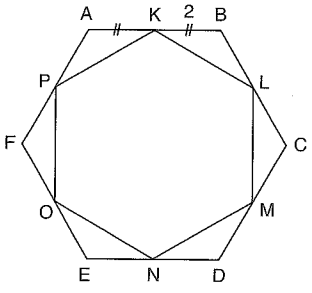
ABCDEF düzgün altıgen

ABCDEF regular hexagon

⇒ A(EKD) = ?

$9\sqrt{3}$

7.



ABCDEF ve KLMNOP düzgün altıgen

ABCDEF and KLMNOP regular hexagon

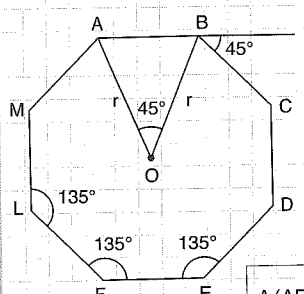
⇒ A(KLMNOP) = ?

$18\sqrt{3}$

PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK | Property 5

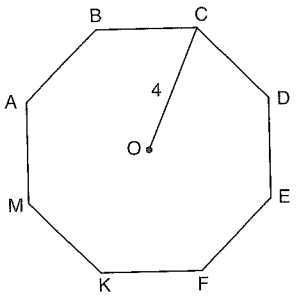


O merkezli düzgün sekizgen

A regular octagon with a center O.

$$A(ABCDEFKM) = 8\left(\frac{1}{2}\cdot r\cdot r\sin 45°\right)$$

1.



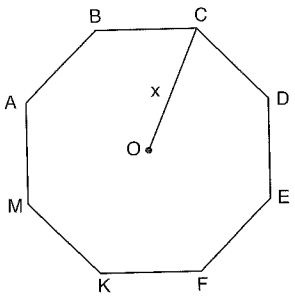
ABCDEFKM düzgün sekizgen

ABCDEFKM regular octagon

⇒ A(ABCDEFKM) = ?

$32\sqrt{2}$

2.



ABCDEFKM düzgün sekizgen

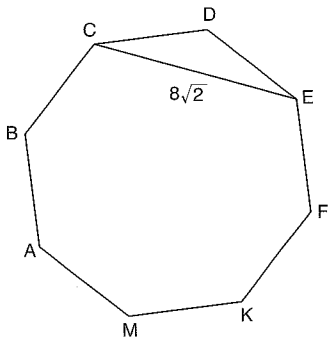
ABCDEFKM regular octagon

$A(ABCDEFKM) = 72\sqrt{2}$

⇒ x = ?

6

3.



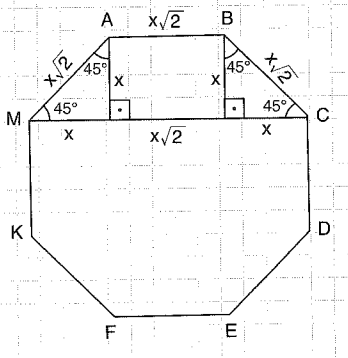
ABCDEFKM düzgün sekizgen

ABCDEFKM regular octagon

⇒ A(ABCDEFKM) = ?

$128\sqrt{2}$

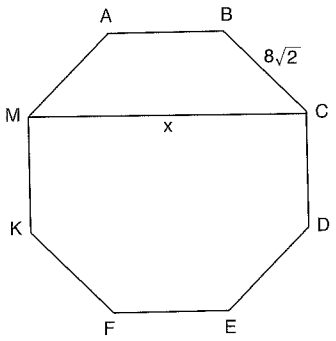
ÖZELLİK | Property 6



ABCDEFKM düzgün sekizgen

ABCDEFKM regular octagon

1.



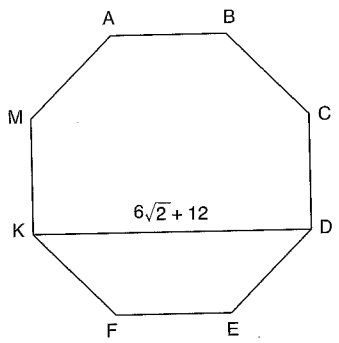
ABCDEFKM düzgün sekizgen

ABCDEFKM regular octagon

⇒ x = ?

$16 + 8\sqrt{2}$

2.



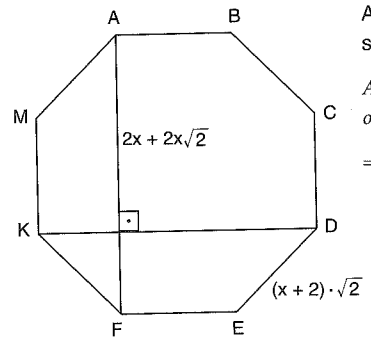
ABCDEFKM düzgün sekizgen

ABCDEFKM regular octagon

⇒ Ç(ABCD...) = ?

$48\sqrt{2}$

3.



ABCDEFKM düzgün sekizgen

ABCDEFKM regular octagon

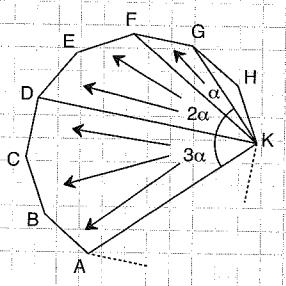
⇒ x = ?

2

PUZA YAYINLARI

www.ztcprep.com

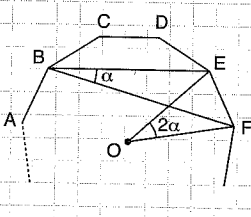
ÖZELLİK|Property 7



ABCD... düzgün çokgen

ABCDE... is a regular polygon

ÖZELLİK|Property 8

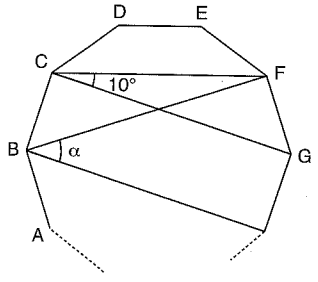


O merkezli n kenarlı düzgün çokgen

A regular polygon having n edges, with a center O

$$\Rightarrow \frac{2\cdot\alpha}{360^\circ} = \frac{1}{n} \qquad \boxed{\Rightarrow n = \frac{180^\circ}{\alpha}}$$

1.



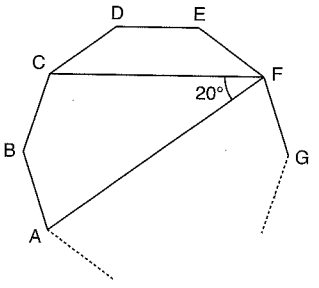
ABCDE... düzgün çokgen

ABCDE... is a regular polygon

$\Rightarrow \alpha = ?$

20

1.

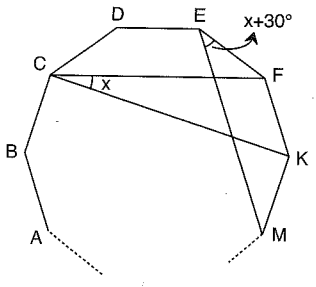


ABCD... düzgün çokgeni kaç kenarlıdır?

How many edges does the ABCDE... a regular polygon have?

18

2.



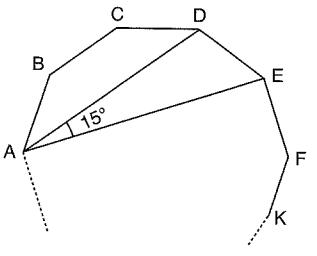
ABCDE... düzgün çokgen

ABCDE... is a regular polygon

$\Rightarrow x = ?$

30

2.

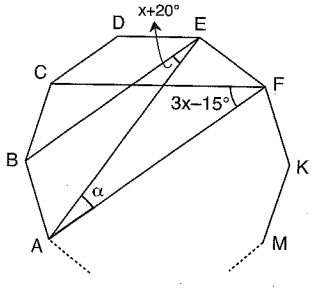


ABCD... düzgün çokgeni kaç kenarlıdır?

How many edges does the ABCDE... a regular polygon have?

12

3.



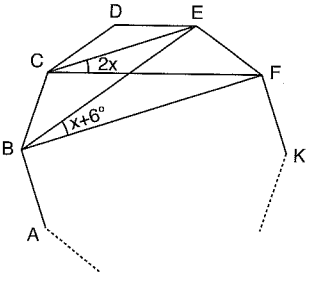
ABCDE... düzgün çokgen

ABCDE... is a regular polygon

$\Rightarrow \alpha = ?$

75

3.



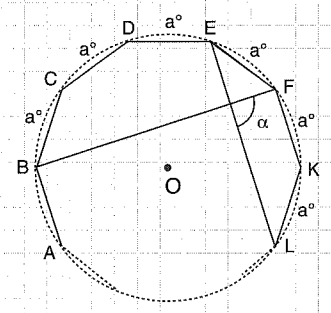
ABCD... düzgün çokgeni kaç kenarlıdır?

How many edges does the ABCDE... a regular polygon have?

15

PUZA YAYINLARI

ÖZELLİK|Property 9



O merkezli n kenarlı düzgün çokgen

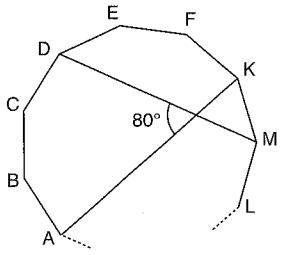
A regular polygon having n edges, with a center O

$$\frac{3a + 2a}{2} = \alpha$$

$$a = \frac{2 \cdot \alpha}{5}$$

$$\frac{\frac{2\alpha}{5}}{360^\circ} = \frac{1}{n}$$

1.

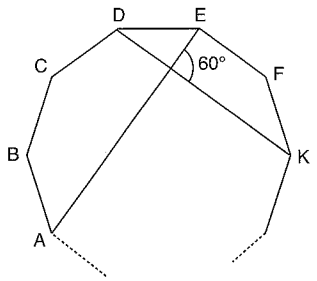


ABCD... düzgün çokgeni kaç kenarlıdır?

How many edges does the ABCDE.. a regular polygon have?

9

2.

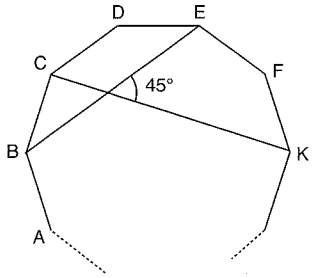


ABCD... düzgün çokgeni kaç kenarlıdır?

How many edges does the ABCDE... a regular polygon have?

15

3.

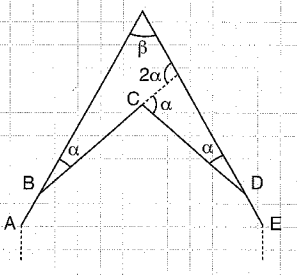


ABCD... düzgün çokgeni kaç kenarlıdır?

How many edges does the ABCDE... a regular polygon have?

12

ÖZELLİK|Property 10



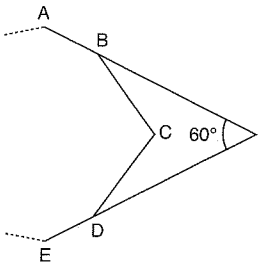
ABCDE... n kenarlı düzgün çokgen

ABCDE... is a regular polygon with n edges

$3\alpha + \beta = 180^\circ$

$$\frac{360^\circ}{n} = \alpha$$

1.



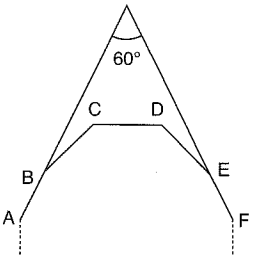
ABCDE... n kenarlı düzgün çokgen

ABCDE... is a regular polygon with n edges

$\Rightarrow n = ?$

9

2.



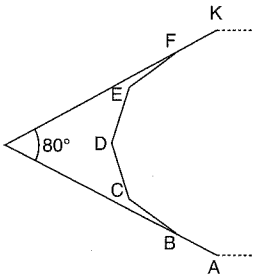
ABCDE... n kenarlı düzgün çokgen

ABCDE... is a regular polygon with n edges

$\Rightarrow n = ?$

12

3.



ABCDE... n kenarlı düzgün çokgen

ABCDE... is a regular polygon with n edges

$\Rightarrow n = ?$

18

PUZA YAYINLARI

1. Kenar sayısı 7 olan konverks bir çokgenin tüm köşegenlerinin sayısı nedir?

What number is the sum of diagonals of a convex polygon with the edge number of 7?

A) 28 B) 18 C) 15 D) 14 E) 12

2. Bir köşesinden çizilen tüm köşegenlerinin sayısı 5 olan çokgenin iç açıları toplamı kaç derecedir?

What is the sum of degree of a interior angles of a polygon which the number of diagonals drawn from a vertex is 5?

A) 1440 B) 1080 C) 900 D) 720 E) 540

3. Dış bükey bir yedigenin çizilebilmesi için en az kaç elemanı bilinmelidir?

How many elements should be determined at least, in order to be drawn a convex heptagon?

A) 21 B) 19 C) 17 D) 14 E) 11

4. Bir köşesinden çizilen tüm köşegenlerle dış bükey dokuzgen kaç üçgensel bölgeye ayrılır?

How many triangular sectors is a convex nonagon by diagonals drawn from a vertex to divided into?

A) 9 B) 8 C) 7 D) 6 E) 5

5. Dış açıların toplamının iç açılar toplamına oranı $\frac{1}{4}$ olan çokgenin çizilebilmesi için kaç elemanı bilinmelidir?

How many elements of a polygon should be determined which the ratio of the sum of exterior angles to the sum of interior angles is 1/4?

A) 21 B) 17 C) 11 D) 10 E) 9

6. Tüm köşegen sayısı 14 olan konveks bir çokgenin iç açıları toplamı kaç derecedir?

What is the sum of degree of interior angles of a convex polygon with the number of diagonals 14?

A) 1440 B) 1080 C) 900 D) 720 E) 540

7. Tüm köşegen sayısı kenar sayısının 3 katı olan konveks çokgenin bir köşesinden çizilen tüm köşegenlerinin sayısı nedir?

What number is the sum of diagonals of a convex polygon drawn from a vertex each other vertex, which the number of diagonals is 3 times of the number of edges?

A) 6 B) 5 C) 4 D) 3 E) 2

8. Dış bükey onikigenin en az kaç iç açısı geniş açı olabilir?

How many of angles of a convex dodecagon can be obtuse angle at least?

A) 10 B) 9 C) 8 D) 7 E) 6

PUZA YAYINLARI

www.ztcprep.com

9. Bir iç açısı bir dış açısının 8 katı olan düzgün çokgen kaç kenarlıdır?

How many angles does a regular polygon have, that one of its interior angle is 8 time of an exterior angle?

A) 10 B) 12 C) 16 D) 18 E) 20

10. Bir dış bükey çokgenin iç açılarının üç tanesi 150°, 130° ve 60° dir.

Diğer iç açıları ölçüleri eşit ve 140° olduğuna göre bu çokgen kaç kenarlıdır?

What number is the angles of a polygon which the interior angles of a convex polygon is 150°, 130°, 60°.

The other interior angles are equal and 140°?

A) 9 B) 8 C) 7 D) 6 E) 5

11. Bir iç açısı 140° olan düzgün bir çokgen kaç kenarlıdır?

What number is the edges of a regular polygon with the a interior angles of 140°?

A) 5 B) 6 C) 7 D) 8 E) 9

12. Bir dış açısının ölçüsü 30° olan düzgün çokgen kaç kenarlıdır?

What number is the edge of a regular polygon with an exterior angles of 30°?

A) 15 B) 12 C) 10 D) 8 E) 6

13. Bir iç açısı bir dış açısının 2 katından 30° eksik olan düzgün çokgenin bir iç açısı kaç derecedir?

What is the degree of a interior angles of a regular polygon which, one of interior angle is 30° lack of 2 times of an exterior angles?

A) 70 B) 80 C) 90 D) 100 E) 110

14. Bir iç açısı bir dış açısının 6 katından 40° fazla olan düzgün çokgenin tüm köşegenlerinin sayısı nedir?

What number is the sum of diagonals of a regular polygon that one of interior angles is 40° surplus of 6 times of an exterior angles?

A) 45 B) 90 C) 104 D) 135 E) 170

15. Bir dış açısının ölçüsünün bir iç açısının ölçüsüne oranı $\frac{1}{5}$ olan düzgün çokgenin tüm köşegenlerinin sayısı nedir?

What is the sum of diagonals of a regular polygon which the ratio of an exterior angle measurement to interior angle measurement is 1/5?

A) 12 B) 20 C) 28 D) 54 E) 80

16. Düzgün bir onikigenin ağırlık merkezinden geçen kaç köşegeni vardır?

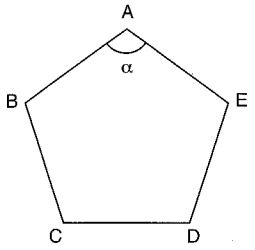
What is the number of diagonals in a regular dodecagon which goes throw the center of gravity?

A) 6 B) 12 C) 27 D) 36 E) 54

PUZA YAYINLARI

www.ztcprep.com

1.



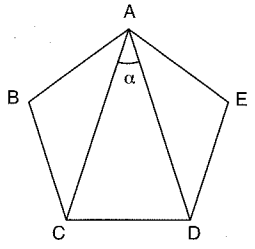
ABCDE düzgün beşgen

ABCDE regular pentagon

$\Rightarrow m(\widehat{BAE}) = \alpha = ?$

A) 36 B) 72 C) 108 D) 120 E) 150

2.



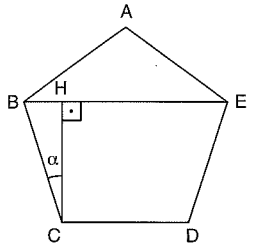
ABCDE düzgün beşgen

ABCDE regular pentagon

$\Rightarrow m(\widehat{CAD}) = \alpha = ?$

A) 18 B) 36 C) 72 D) 90 E) 108

3.



ABCDE düzgün beşgen

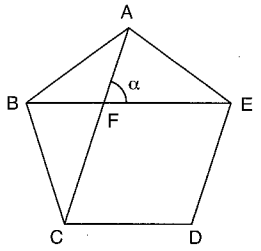
ABCDE regular pentagon

$[CH] \perp [BE]$

$\Rightarrow m(\widehat{BCH}) = \alpha = ?$

A) 9 B) 18 C) 36 D) 54 E) 72

4.



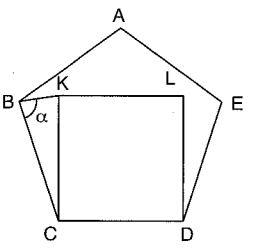
ABCDE düzgün beşgen

ABCDE regular pentagon

$\Rightarrow m(\widehat{AFE}) = \alpha = ?$

A) 144 B) 108 C) 72 D) 54 E) 36

5.



ABCDE düzgün beşgen

ABCDE regular pentagon

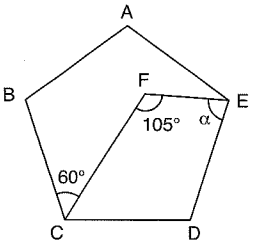
KLDC kare

KLDC square

$\Rightarrow m(\widehat{KBC}) = \alpha = ?$

A) 72 B) 78 C) 80 D) 81 E) 85

6.



ABCDE düzgün beşgen

ABCDE regular pentagon

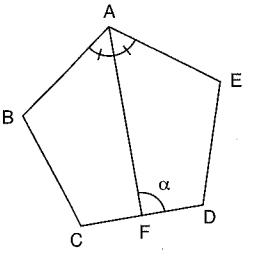
$m(\widehat{BCF}) = 60°$

$m(\widehat{CFE}) = 105°$

$\Rightarrow m(\widehat{FED}) = \alpha = ?$

A) 89 B) 95 C) 99 D) 105 E) 109

7.



ABCDE düzgün beşgen

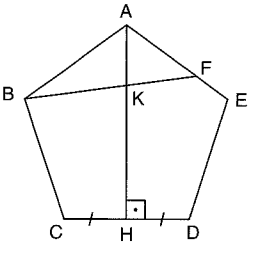
ABCDE regular pentagon

$m(\widehat{BAF}) = m(\widehat{FAE})$

$\Rightarrow m(\widehat{AFD}) = \alpha = ?$

A) 108 B) 90 C) 72 D) 54 E) 36

8.



ABCDE düzgün beşgen

ABCDE regular pentagon

$[AH] \perp [CD]$

$|CH| = |HD|$

$|AF| = 4$ br

$|FE| = 2$ br

$|BK| = 4$ br

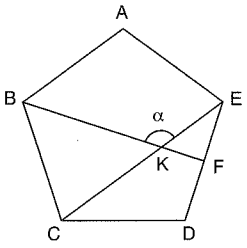
$\Rightarrow |KF| = x = ?$

A) $\frac{5}{3}$ B) 2 C) $\frac{8}{3}$ D) 4 E) 6

PUZA YAYINLARI

www.ztcprep.com

9.



ABCDE düzgün beşgen

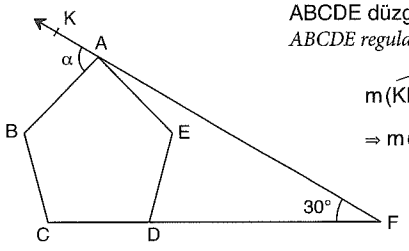
ABCDE regular pentagon

$|EF| = |FD|$

$\Rightarrow m(\widehat{BKE}) = \alpha = ?$

A) 144 B) 126 C) 108 D) 90 E) 72

10.



ABCDE düzgün beşgen

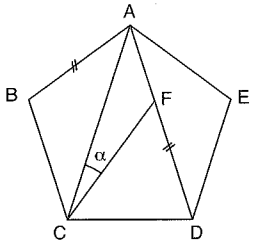
ABCDE regular pentagon

$m(\widehat{KFC}) = 30°$

$\Rightarrow m(\widehat{KAB}) = \alpha = ?$

A) 54 B) 60 C) 66 D) 76 E) 82

11.



ABCDE düzgün beşgen

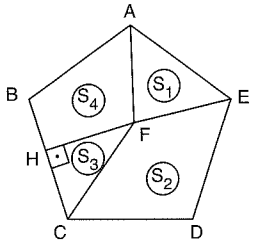
ABCDE regular pentagon

$|AB| = |FD|$

$\Rightarrow m(\widehat{ACF}) = \alpha = ?$

A) 18 B) 28 C) 36 D) 54 E) 72

12.



F merkezli

ABCDE düzgün beşgen

With a center F

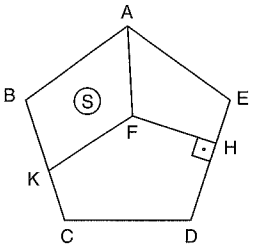
ABCDE regular pentagon

$[EH] \perp [BC]$

$\Rightarrow \dfrac{S_2 - S_3}{S_1 + S_4} = ?$

A) $\frac{1}{3}$ B) $\frac{3}{5}$ C) 1 D) $\frac{3}{2}$ E) $\frac{7}{3}$

13.



F merkezli

ABCDE düzgün beşgen

With a center F

ABCDE regular pentagon

$[FH] \perp [ED]$

$|AE| = 6$ br

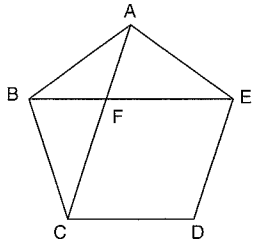
$|FH| = 4$ br

$|KC| = 2$ br

$\Rightarrow A(ABKF) = S = ?$

A) 12 B) 14 C) 16 D) 20 E) 24

14.



ABCDE düzgün beşgen

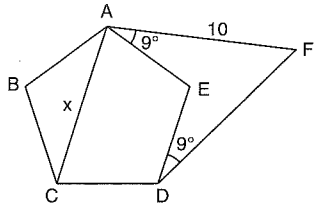
ABCDE regular pentagon

$Ç(FEDC) = 36$ br

$\Rightarrow Ç(ABCDE) = ?$

A) 10 B) 15 C) 30 D) 45 E) 60

15.



ABCDE düzgün beşgen

ABCDE regular pentagon

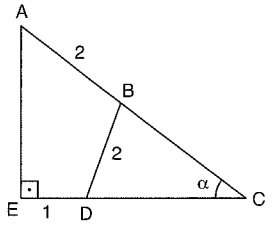
$m(\widehat{FAE}) = m(\widehat{EDF}) = 9°$

$|AF| = 10$ br

$\Rightarrow |AC| = x = ?$

A) 5 B) $5\sqrt{2}$ C) 10 D) $10\sqrt{2}$ E) $10\sqrt{3}$

16.



$|AB| = 2$ br

$|BD| = 2$ br

$|ED| = 1$ br

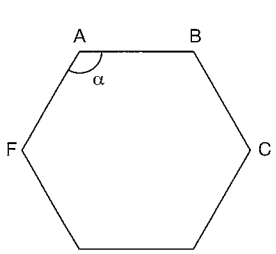
$\Rightarrow m(\widehat{ACE}) = \alpha = ?$

A) 36 B) 48 C) 54 D) 72 E) 81

PUZA YAYINLARI

www.ztcprep.com

1.



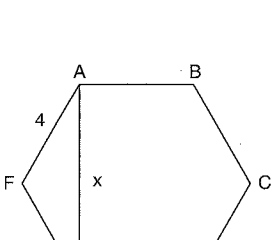
ABCDEF düzgün altıgen

ABCDEF regular hexagon

$\Rightarrow m(\widehat{BAF}) = \alpha = ?$

A) 150 B) 135 C) 120 D) 110 E) 108

2.



ABCDEF düzgün altıgen

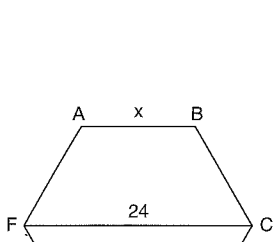
ABCDEF regular hexagon

$|AF| = 4$ br

$\Rightarrow |AE| = x = ?$

A) 2 B) 4 C) $4\sqrt{3}$ D) 8 E) $8\sqrt{3}$

3.



ABCDEF düzgün altıgen

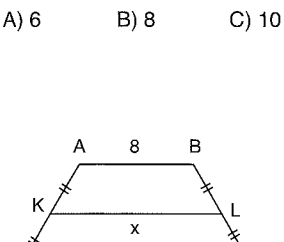
ABCDEF regular hexagon

$|FC| = 24$ br

$|AB| = x = ?$

A) 6 B) 8 C) 10 D) 12 E) 16

4.



ABCDEF düzgün altıgen

ABCDEF regular hexagon

$|AK| = |KF|$

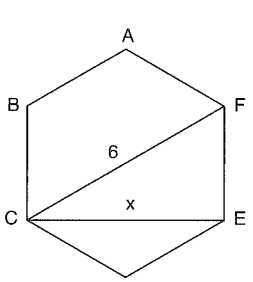
$|BL| = |LC|$

$|AB| = 8$ br

$\Rightarrow |KL| = x = ?$

A) 10 B) 11 C) 12 D) 13 E) 14

5.



ABCDEF düzgün altıgen

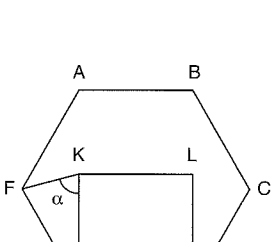
ABCDEF regular hexagon

$|CF| = 6$ br

$\Rightarrow |CE| = x = ?$

A) 3 B) $3\sqrt{2}$ C) $3\sqrt{3}$ D) 16 E) $6\sqrt{3}$

6.



ABCDEF düzgün altıgen,

ABCDEF regular hexagon

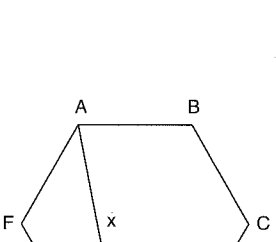
KLDE kare

KLDE square

$\Rightarrow m(\widehat{FKE}) = \alpha = ?$

A) 30 B) 45 C) 60 D) 75 E) 81

7.



ABCDEF düzgün altıgen

ABCDEF regular hexagon

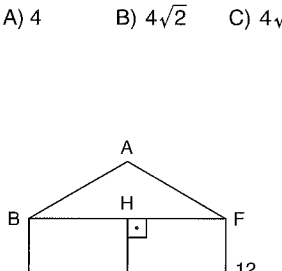
$|EK| = 1$ br

$|KD| = 3$ br

$\Rightarrow |AK| = x = ?$

A) 4 B) $4\sqrt{2}$ C) $4\sqrt{3}$ D) 7 E) $4\sqrt{2}$

8.



ABCDEF düzgün altıgen

ABCDEF regular hexagon

$[DH] \perp [BF]$

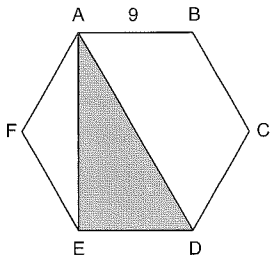
$|FE| = 12$ br

$\Rightarrow |HD| = x = ?$

A) 12 B) 14 C) 16 D) 18 E) 24

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

9.



ABCDEF düzgün altıgen

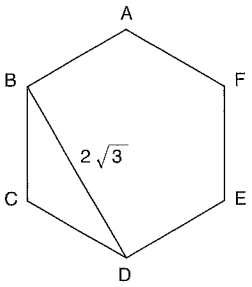
ABCDEF regular hexagon

$|AB| = 9$ br

$\Rightarrow A(AED) = ?$

A) $\frac{27\sqrt{3}}{2}$ B) 50 C) $81\sqrt{3}$ D) 81 E) $\frac{81\sqrt{3}}{2}$

10.



ABCDEF düzgün altıgen

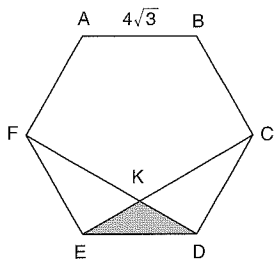
ABCDEF regular hexagon

$|BD| = 2\sqrt{3}$ br

$\Rightarrow A(ABCDEF) = ?$

A) $4\sqrt{3}$ B) $6\sqrt{3}$ C) $12\sqrt{3}$ D) $18\sqrt{3}$ E) $24\sqrt{3}$

11.



ABCDEF düzgün altıgen

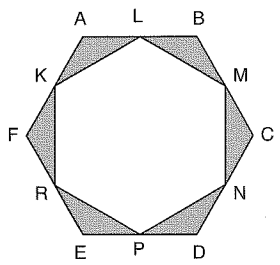
ABCDEF regular hexagon

$|AB| = 4\sqrt{3}$ br

$\Rightarrow A(EKD) = ?$

A) 16 B) $8\sqrt{3}$ C) 8 D) $4\sqrt{3}$ E) 4

12.



ABCDEF ve KLMNPR düzgün altıgen

ABCDEF and KLMNPR regular hexagon

$|BM| = |MC|$

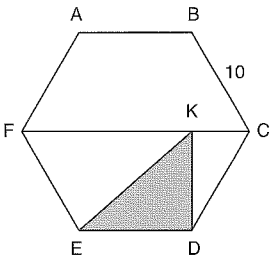
$|BM| = 4$ br

$\Rightarrow$ Taralı alan = ?

Shaded area = ?

A) $48\sqrt{3}$ B) $24\sqrt{3}$ C) $16\sqrt{3}$ D) $16\sqrt{3}$ E) $8\sqrt{3}$

13.



ABCDEF düzgün altıgen

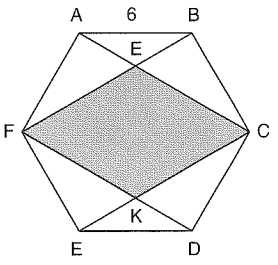
ABCDEF regular hexagon

$|BC| = 10$ br

$\Rightarrow A(EKD) = ?$

A) $25\sqrt{3}$ B) $20\sqrt{3}$ C) 20 D) $10\sqrt{3}$ E) 10

14.



ABCDEF düzgün altıgen

ABCDEF regular hexagon

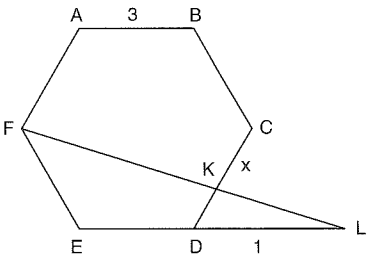
$|AB| = 6$ br

$\Rightarrow$ Taralı Alan = ?

Shaded area = ?

A) $24\sqrt{3}$ B) $16\sqrt{3}$ C) $8\sqrt{3}$ D) 8 E) $4\sqrt{3}$

15.



ABCDEF düzgün altıgen

ABCDEF regular hexagon

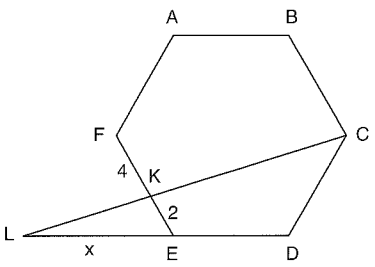
$|AB| = 3$ br

$|DL| = 1$ br

$\Rightarrow |KC| = x = ?$

A) 1 B) 2 C) $\frac{18}{7}$ D) $\frac{18}{5}$ E) $\frac{32}{3}$

16.



ABCDEF düzgün altıgen

ABCDEF regular hexagon

$|FK| = 4$ br

$|KE| = 2$ br

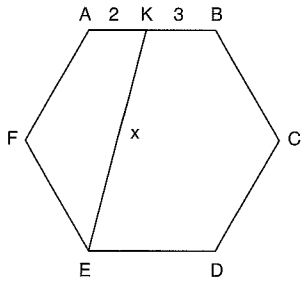
$\Rightarrow |LE| = x = ?$

A) 2 B) 3 C) 4 D) 5 E) 6

PUZA YAYINLARI

www.ztcprep.com

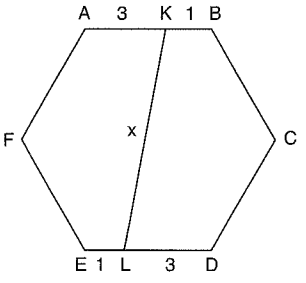
1.



ABCDEF düzgün altıgen
ABCDEF regular hexagon
|AK| = 2 br
|KB| = 3 br
⇒|KE| = x = ?

A) 5 B) $\sqrt{29}$ C) 8 D) $\sqrt{79}$ E) 13

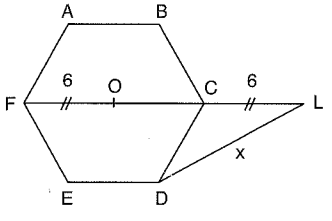
2.



ABCDEF düzgün altıgen
ABCDEF regular hexagon
|KB| = 1 br
|AK| = 3 br
|EL| = 1 br
|LD| = 3 br
⇒|KL| = x = ?

A) 6 B) $4\sqrt{3}$ C) 7 D) $5\sqrt{2}$ E) $2\sqrt{13}$

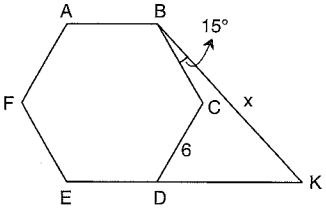
3.



O merkezli, ABCDEF düzgün altıgen
With a center O, ABCDEF regular hexagon
|FO| = 6 br
|CL| = 6 br
⇒|DL| = x = ?

A) $6\sqrt{3}$ B) $6\sqrt{2}$ C) 6 D) $3\sqrt{3}$ E) 3

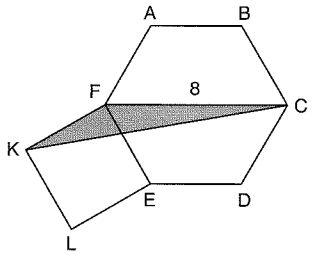
4.



ABCDEF düzgün altıgen
ABCDEF regular hexagon
|DC| = 6 br
$m(\widehat{CBK}) = 15°$
⇒|BK| = x = ?

A) $3\sqrt{2}$ B) $3\sqrt{3}$ C) $6\sqrt{2}$ D) $6\sqrt{3}$ E) $6\sqrt{6}$

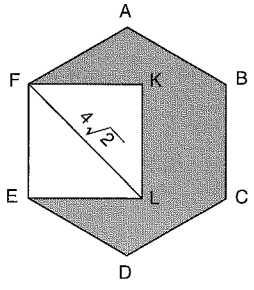
5.



ABCDEF düzgün altıgen
ABCDEF regular hexagon
KLEF kare
KLEF square
|FC| = 8 br
⇒ A(KFC) = ?

A) $16\sqrt{3}$ B) $8\sqrt{3}$ C) 8 D) $4\sqrt{3}$ E) 4

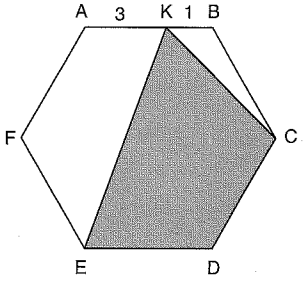
6.



ABCDEF düzgün altıgen
ABCDEF regular hexagon
FKLE kare
FKLE square
$|FL| = 4\sqrt{2}$ br
⇒ Taralı Alan = ?
Shaded area = ?

A) $8\sqrt{3}+8$ B) $12\sqrt{3}-12$ C) $24\sqrt{3}-16$
D) $4\sqrt{3}$ E) $2\sqrt{3}$

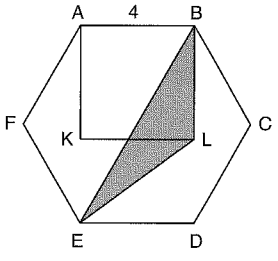
7.



ABCDEF düzgün altıgen
ABCDEF regular hexagon
|KB| = 1 br
|AK| = 3 br
⇒ Taralı Alan = ?
Shaded area = ?

A) $24\sqrt{3}$ B) $17\sqrt{3}$ C) $13\sqrt{3}$ D) $12\sqrt{3}$ E) $11\sqrt{3}$

8.

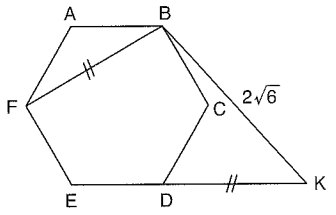


ABCDEF düzgün altıgen
ABLK regular hexagon
ABLK kare
ABLK square
|AB| = 4 br
⇒ Taralı Alan = ?
Shaded area = ?

A) $4\sqrt{3}$ B) 8 C) $8\sqrt{3}$ D) 16 E) $16\sqrt{3}$

PUZA YAYINLARI

9.



ABCDEF düzgün altıgen

ABCDEF regular hexagon

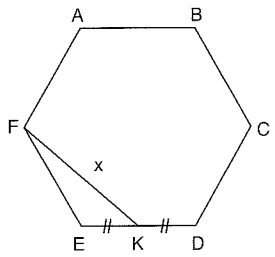
$|BK| = 2\sqrt{6}$ br

$|FB| = |DK|$

$\Rightarrow$ A(ABCDEF) = ?

A) 24 B) $12\sqrt{3}$ C) $12\sqrt{2}$ D) $8\sqrt{3}$ E) $6\sqrt{3}$

10.



ABCDEF düzgün altıgen

ABCDEF regular hexagon

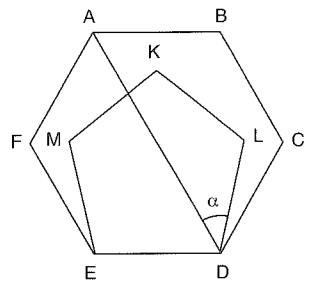
$|EB| = 12$ br

$|EK| = |KD|$

$\Rightarrow |FK| = x = ?$

A) $\sqrt{7}$ B) 6 C) $3\sqrt{7}$ D) $6\sqrt{3}$ E) $6\sqrt{7}$

11.



ABCDEF düzgün altıgen,

ABCDEF regular hexagon

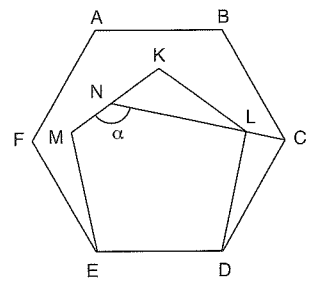
MKLDE düzgün beşgen

MKLDE regular pentagon

$\Rightarrow m(\widehat{ADL}) = \alpha = ?$

A) 18 B) 30 C) 48 D) 60 E) 72

12.



ABCDEF düzgün altıgen

ABCDEF regular hexagon

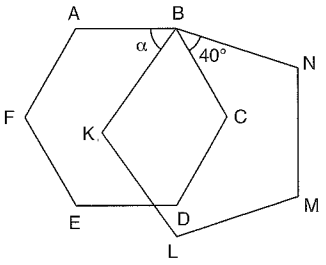
MKLDE düzgün beşgen

MKLDE regular pentagon

$\Rightarrow m(\widehat{MNC}) = \alpha = ?$

A) 120 B) 118 C) 116 D) 112 E) 110

13.



ABCDEF düzgün altıgen

ABCDEF regular hexagon

KBNML düzgün beşgen

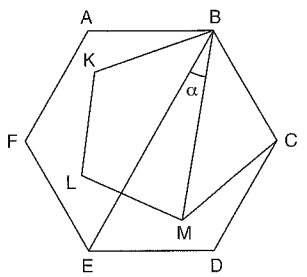
KBNML regular pentagon

$m(\widehat{CBN}) = 40°$

$\Rightarrow m(\widehat{ABK}) = \alpha = ?$

A) 28 B) 52 C) 54 D) 68 E) 70

14.



ABCDEF düzgün altıgen

ABCDEF regular hexagon

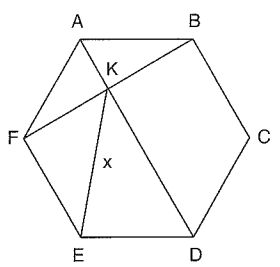
KBCML düzgün beşgen

KBCML regular pentagon

$\Rightarrow m(\widehat{EBM}) = \alpha = ?$

A) 72 B) 60 C) 36 D) 24 E) 12

15.



ABCDEF düzgün altıgen

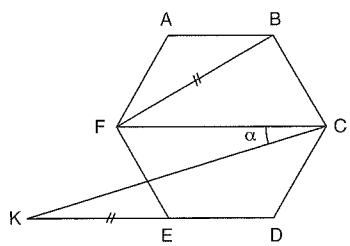
ABCDEF regular hexagon

$|BF| = 12$ br

$\Rightarrow |KE| = x = ?$

A) 6 B) $2\sqrt{15}$ C) $\sqrt{21}$ D) $6\sqrt{3}$ E) $2\sqrt{21}$

16.



ABCDEF düzgün altıgen

ABCDEF regular hexagon

$|FB| = |KE|$

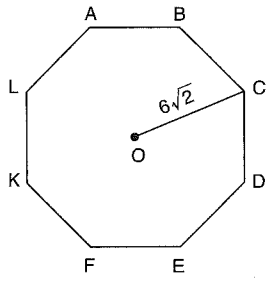
$\Rightarrow m(\widehat{FCK}) = \alpha = ?$

A) 9 B) 15 C) 36 D) 54 E) 72

PUZA YAYINLARI

www.ztcprep.com

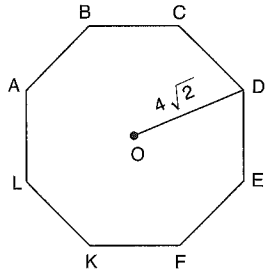
1.



ABCDEFKL düzgün sekizgen
ABCDEFKL regular octagon
$|OC| = 6\sqrt{2}$
$\Rightarrow$ A(ABCDEFKL) = ?

A) $12\sqrt{3}$ B) $24\sqrt{2}$ C) $24\sqrt{3}$ D) $48\sqrt{2}$ E) $144\sqrt{2}$

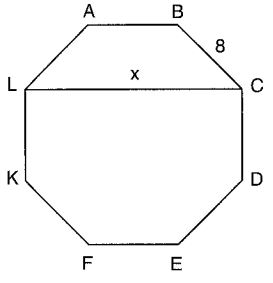
2.



ABCDEFKL düzgün sekizgen
ABCDEFKL regular octagon
$|OD| = 4\sqrt{2}$ br
$\Rightarrow$ A(ABCD...) = ?

A) 128 B) $64\sqrt{2}$ C) 64 D) $32\sqrt{2}$ E) 32

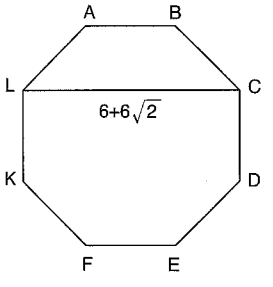
3.



ABCDEFKL düzgün sekizgen
ABCDEFKL regular octagon
$|BC| = 8$ br
$\Rightarrow |LC| = x = ?$

A) $8\sqrt{2}+8$ B) $4\sqrt{2}+8$ C) $8\sqrt{2}+4$ D) $4\sqrt{2}+4$ E) 8

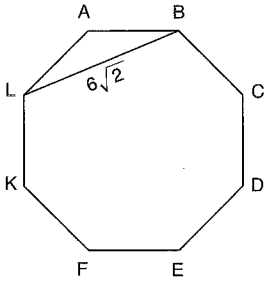
4.



ABCDEFKL düzgün sekizgen
ABCDEFKL regular octagon
$|LC| = 6+6\sqrt{2}$ br
$\Rightarrow |AB| = ?$

A) 3 B) 6 C) 8 D) 12 E) 16

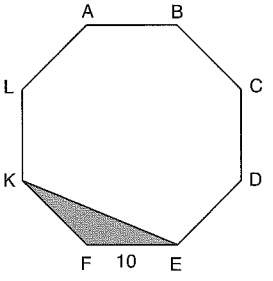
5.



ABCDEFKL düzgün sekizgen
ABCDEFKL regular octagon
$|LB| = 6\sqrt{2}$ br
$\Rightarrow$ A(ABCDEFKL) = ?

A) $54\sqrt{2}$ B) $72\sqrt{2}$ C) 108 D) $108\sqrt{2}$ E) $144\sqrt{2}$

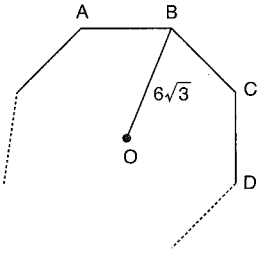
6.



ABCDEFKL düzgün sekizgen
ABCDEFKL regular octagon
$|FE| = 10$ br
$\Rightarrow$ A(KFE) = ?

A) 15 B) 25 C) $25\sqrt{2}$ D) 50 E) $50\sqrt{3}$

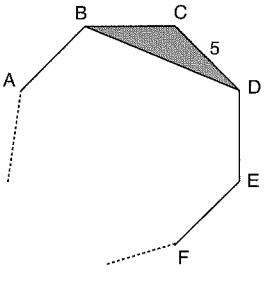
7.



ABCD... düzgün onikigen
ABCD... regular dodecagon
$|OB| = 6\sqrt{3}$ br
$\Rightarrow$ A(ABCD...) = ?

A) 324 B) $108\sqrt{3}$ C) 144 D) $52\sqrt{3}$ E) 72

8.

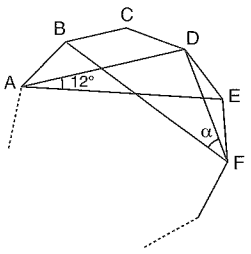


ABCD... düzgün onikigen
ABCD... regular dodecagon
$|CD| = 5$ br
$\Rightarrow$ A(BCD) = ?

A) 25 B) $\frac{25}{2}$ C) $\frac{25\sqrt{3}}{4}$ D) $\frac{25}{4}$ E) $\frac{25}{8}$

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

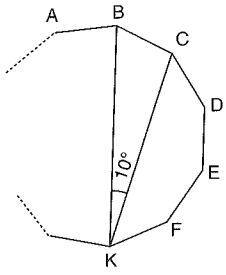
9.



ABCD... düzgün çokgen
ABCD... regular polygon
$m(\widehat{DAE}) = 12^\circ$
$\Rightarrow m(\widehat{BFD}) = \alpha = ?$

A) 6 B) 9 C) 12 D) 24 E) 48

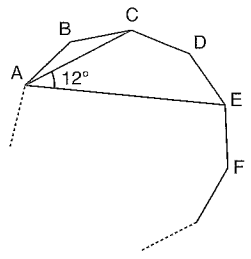
10.



ABCD... düzgün çokgen
ABCD... regular polygon
$m(\widehat{BKC}) = 10^\circ$
$\Rightarrow$ Düzgün çokgen kaç kenarlıdır?
How many edges does a regular polygon have?

A) 10 B) 12 C) 14 D) 16 E) 18

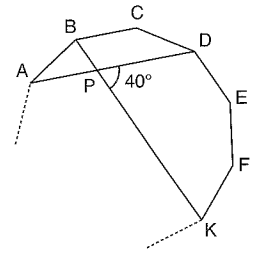
11.



ABCD... düzgün çokgen
ABCD... regular polygon
$m(\widehat{CAE}) = 12^\circ$
$\Rightarrow$ Düzgün çokgen kaç kenarlıdır?
How many edges does a regular polygon have?

A) 30 B) 26 C) 24 D) 20 E) 18

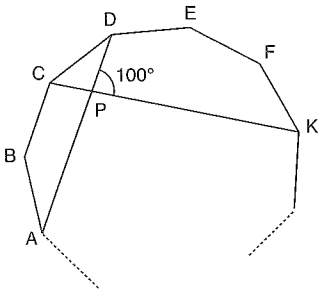
12.



ABCD... düzgün çokgen
ABCD... regular polygon
$m(\widehat{DPK}) = 40^\circ$
$\Rightarrow$ Düzgün çokgen kaç kenarlıdır?
How many edges does a regular polygon have?

A) 14 B) 15 C) 16 D) 18 E) 22

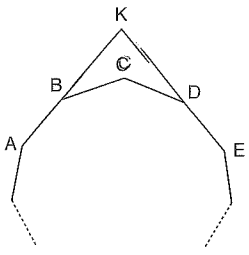
13.



ABCD... düzgün çokgen
ABCD... regular polygon
$m(\widehat{DPK}) = 100^\circ$
$\Rightarrow$ Düzgün çokgen kaç kenarlıdır?
How many edges does a regular polygon have?

A) 7 B) 9 C) 11 D) 12 E) 15

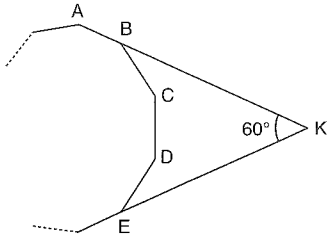
14.



ABCD... düzgün çokgen
ABCD... regular polygon
$m(\widehat{BKD}) = 60^\circ$
$\Rightarrow$ Düzgün çokgen kaç kenarlıdır?
How many edges does a regular polygon have?

A) 7 B) 9 C) 10 D) 11 E) 12

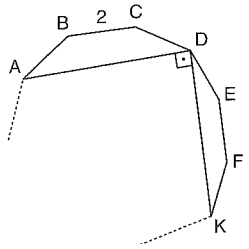
15.



ABCD... düzgün çokgen
ABCD... regular polygon
$m(\widehat{AKE}) = 60^\circ$
$\Rightarrow$ Düzgün çokgen kaç kenarlıdır?
How many edges does a regular polygon have?

A) 12 B) 10 C) 9 D) 8 E) 7

16.



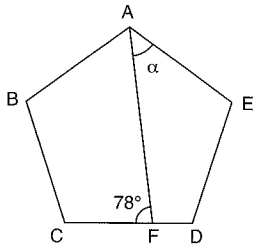
ABCD... düzgün çokgen
ABCD... regular polygon
$[AD] \perp [DK]$
$|BC| = 2$ br
$\Rightarrow$ Ç(ABCD...) = ?

A) 24 B) 18 C) 16 D) 12 E) 8

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

www.ztcprep.com

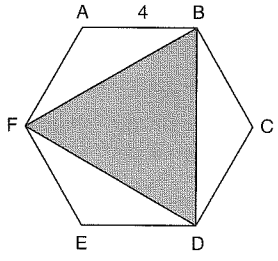
1.



ABCDE düzgün beşgen
ABCDE regular pentagon
$m(\widehat{AFC}) = 78°$
$\Rightarrow m(\widehat{FAE}) = \alpha = ?$

A) 42 B) 48 C) 54 D) 66 E) 96

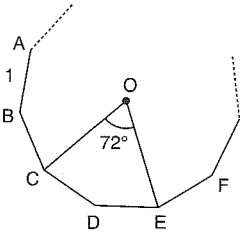
2.



ABCDEF düzgün altıgen
ABCDEF regular hexagon
$|AB| = 4$ br
$\Rightarrow A(FBD) = ?$

A) $4\sqrt{3}$ B) 8 C) $8\sqrt{3}$ D) 12 E) $12\sqrt{3}$

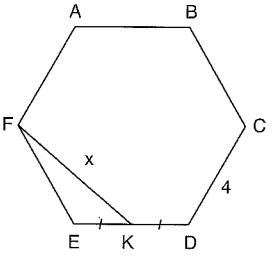
3.



ABCDE... düzgün çokgen
ABCD... regular polygon
$|AB| = 1$ br
$m(\widehat{COE}) = 72°$
$\Rightarrow Ç(ABCD...) = ?$

A) 15 B) 12 C) 10 D) 8 E) 6

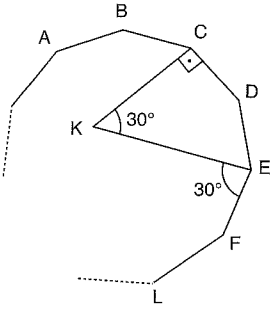
4.



ABCDEF düzgün altıgen
ABCDEF regular hexagon
$|CD| = 4$ br
$|EK| = |KD|$
$\Rightarrow |FK| = x = ?$

A) 7 B) $4\sqrt{3}$ C) $\sqrt{30}$ D) $2\sqrt{7}$ E) 4

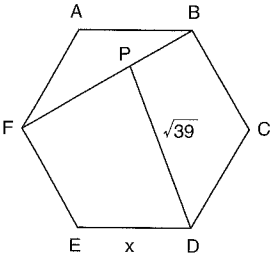
5.



ABCD... düzgün çokgen
ABCD... regular polygon
$[CD] \perp [CK]$
$m(\widehat{CKE}) = 30°$
$m(\widehat{KEF}) = 30°$
$\Rightarrow$ Düzgün çokgenin bir dış açısı kaç derecedir?
How many degrees is an exterior angle of a regular polygon?

A) 30 B) 45 C) 48 D) 54 E) 66

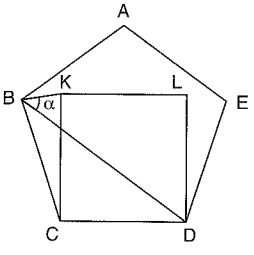
6.



ABCDEF düzgün altıgen
ABCDEF regular hexagon
$|PD| = \sqrt{39}$ br
$3|PB| = |FP|$
$\Rightarrow |ED| = x = ?$

A) 12 B) 10 C) 8 D) 6 E) 4

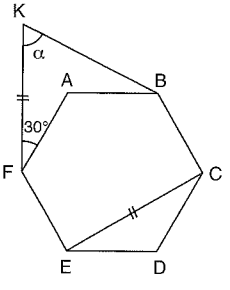
7.



ABCDE düzgün beşgen
ABCDE regular pentagon
KLCD kare
KLCD square
$\Rightarrow m(\widehat{KBD}) = \alpha = ?$

A) 81 B) 62 C) 45 D) 39 E) 36

8.

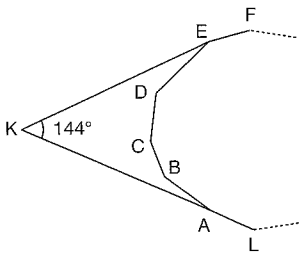


ABCDEF düzgün altıgen
ABCDEF regular hexagon
$|KF| = |EC|$
$m(\widehat{KFA}) = 30°$
$\Rightarrow m(\widehat{FKB}) = \alpha = ?$

A) 90 B) 75 C) 60 D) 45 E) 30

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

9.



ABCD... düzgün çokgen

ABCD... regular polygon

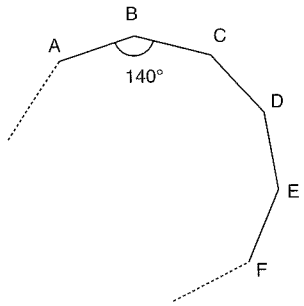
$m(\widehat{FKL}) = 144°$

⇒ Düzgün çokgen kaç kenarlıdır?

How many edges does a regular polygon have?

A) 18 B) 24 C) 32 D) 36 E) 50

10.



ABCD... düzgün çokgen

ABCD... regular polygon

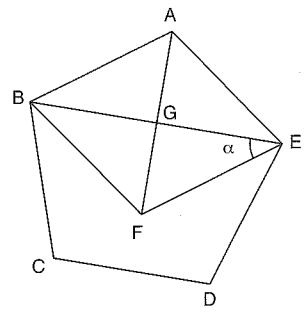
$m(\widehat{ABC}) = 140°$

⇒ Düzgün çokgen kaç kenarlıdır?

How many edges does a regular polygon have?

A) 8 B) 9 C) 10 D) 11 E) 12

11.



ABCDE düzgün beşgen

ABCDE regular pentagon

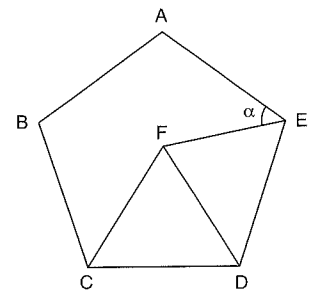
ABF eşkenar üçgen

ABF equilateral triangle

⇒ $m(\widehat{BEF}) = \alpha = ?$

A) 48 B) 42 C) 36 D) 30 E) 24

12.



ABCDE düzgün beşgen

ABCDE regular pentagon

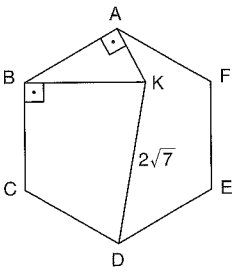
CDF eşkenar üçgen

CDF equilateral triangle

⇒ $m(\widehat{FEA}) = \alpha = ?$

A) 42 B) 40 C) 36 D) 30 E) 18

13.



ABCDEF düzgün altıgen

ABCDEF regular hexagon

$[BA] \perp [AK]$

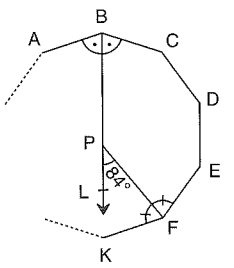
$[BK] \perp [BC]$

$|KD| = 2\sqrt{7}$ br

⇒ Ç(ABCDEF) = ?

A) 12 B) $12\sqrt{3}$ C) 12 D) 24 E) $24\sqrt{3}$

14.



ABCD... düzgün çokgen

ABCD... regular polygon

$m(\widehat{FPL}) = 84°$

$m(\widehat{ABL}) = m(\widehat{LBC})$

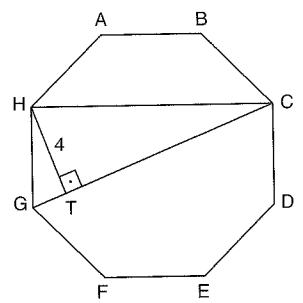
$m(\widehat{KFP}) = m(\widehat{PFE})$

⇒ Düzgün çokgen kaç kenarlıdır?

How many edges does a regular polygon have?

A) 10 B) 12 C) 15 D) 16 E) 18

15.



ABCDEFGH düzgün sekizgen

ABCDEFGH regular octagon

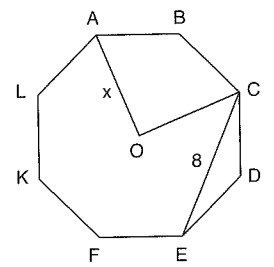
$[HT] \perp [GC]$

$|HT| = 4$ br

⇒ A(GHC) = ?

A) 8 B) $8\sqrt{2}$ C) 16 D) $16\sqrt{2}$ E) 32

16.



O merkezli ABCDEFKL düzgün sekizgen

With a center O

ABCDEFKL regular octagon

$|CE| = 8$ br

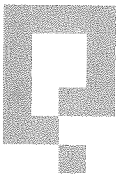
⇒ $|AO| = x = ?$

A) 2 B) 5 C) $2\sqrt{7}$ D) $4\sqrt{2}$ E) 8

PUZA YAYINLARI

www.ztcprep.com

ZTC زنگنه مجموعه موسسات



ÇOKGENLER POLYGONS
Yanıt Anahtarı Answer Key

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	B	E	C	B	C	A	B	D	C	E	B	E	D	D	A

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	B	B	C	D	C	B	C	B	C	A	B	D	D	D	A

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	C	D	C	C	D	D	D	E	B	D	B	A	A	C	E

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	E	A	E	C	C	C	B	E	C	C	A	B	D	E	B

TEST 5

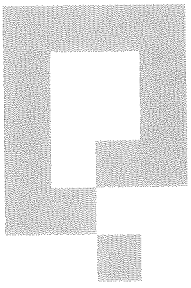
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	B	A	B	B	C	A	D	D	E	A	D	B	B	A	A

TEST 6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	E	C	D	B	E	C	C	E	B	D	A	B	C	D	D

www.ztcprep.com

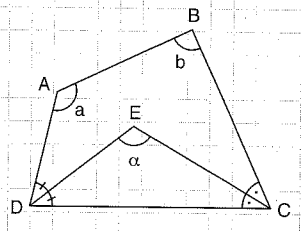
ZTC زنگنه
مجموعه موسسات



DÖRTGENLER
QUADRILATERALS

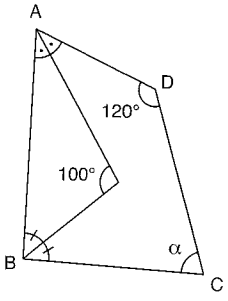
www.ztcprep.com

ÖZELLİK | Property 1



$$\alpha = \frac{a+b}{2}$$

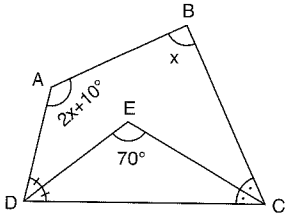
1.



$\Rightarrow \alpha = ?$

80

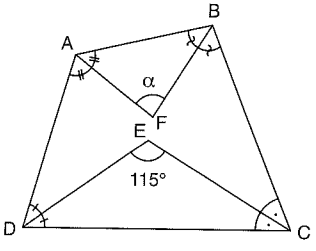
2.



$\Rightarrow x = ?$

$\frac{130}{3}$

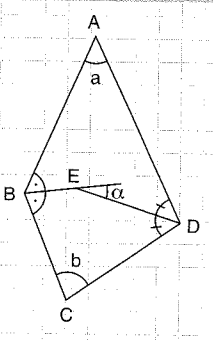
3.



$\Rightarrow \alpha = ?$

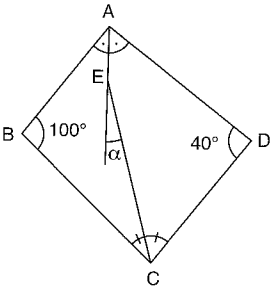
65

ÖZELLİK | Property 2



$$\alpha = \frac{|b-a|}{2}$$

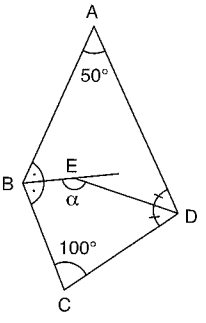
1.



$\Rightarrow \alpha = ?$

30

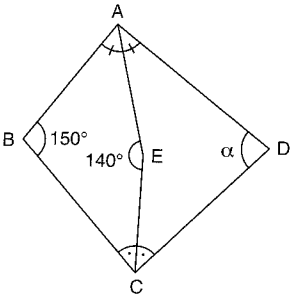
2.



$\Rightarrow \alpha = ?$

155

3.

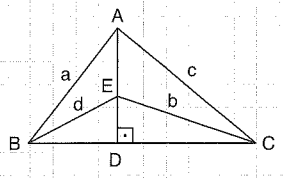


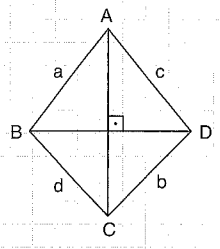
$\Rightarrow \alpha = ?$

70

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

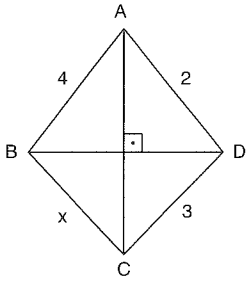
ÖZELLİK|Property 3





$$a^2 + b^2 = c^2 + d^2$$

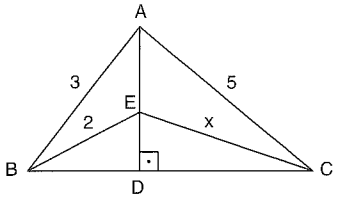
1.



$\Rightarrow x = ?$

$\sqrt{21}$

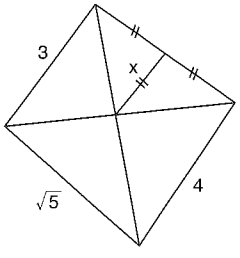
2.



$\Rightarrow x = ?$

$2\sqrt{5}$

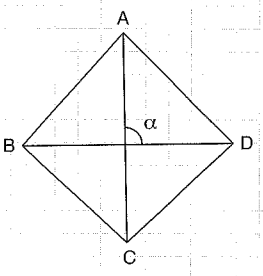
3.



$\Rightarrow x = ?$

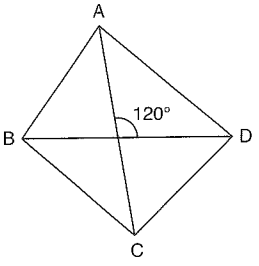
$\sqrt{5}$

ÖZELLİK|Property 4



$$A(ABCD) = \frac{1}{2}|AC| \cdot |BD| \cdot \sin\alpha$$

1.



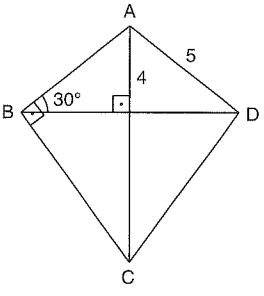
$|AC| = 6$ br

$|BD| = 4$ br

$\Rightarrow A(ABCD) = ?$

$6\sqrt{3}$

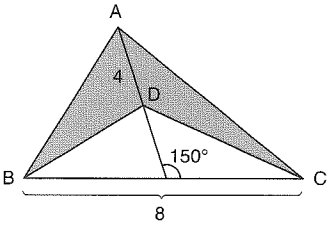
2.



$\Rightarrow A(ABCD) = ?$

$24 + 32\sqrt{3}$

3.

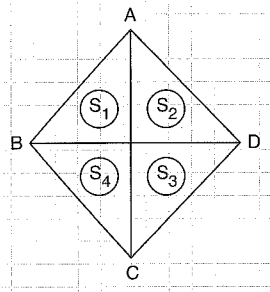


$\Rightarrow A(ABDC) = ?$

8

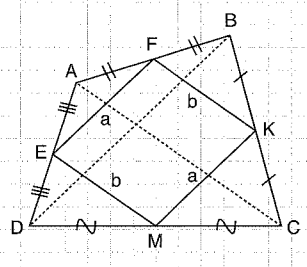
PUZA YAYINLARI

ÖZELLİK | Property 5



$S_1 \cdot S_3 = S_2 \cdot S_4$

ÖZELLİK | Property 6

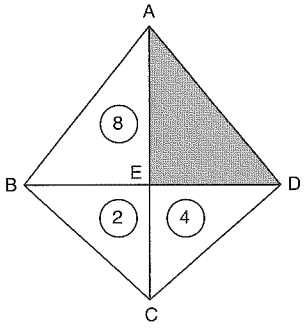


EFKM paralelkenar
EFKM parallelogram

Ç(EFKM) = |AC| + |BD|

2·A(EFKM) = A(ABCD)

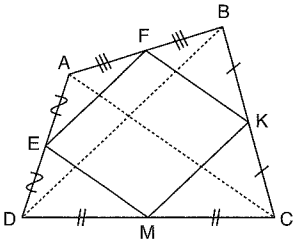
1.



⇒ A(AED) = ?

16

1.



|AC| = 6 br

|BD| = 4 br

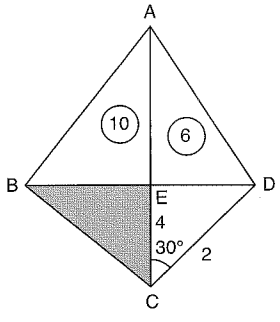
A(EFKM) = 10 br^2

⇒ Ç(EFKM) = ?

⇒ A(ABCD) = ?

10, 20

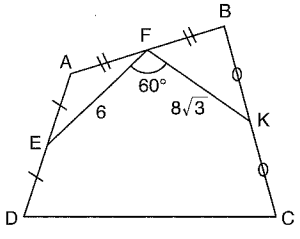
2.



⇒ A(BEC) = ?

$\frac{10}{3}$

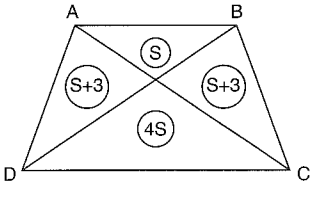
2.



⇒ A(ABCD) = ?

144

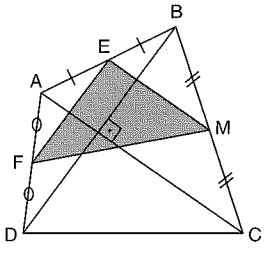
3.



⇒ A(ABCD) = ?

27

3.



|AC| = 4 br

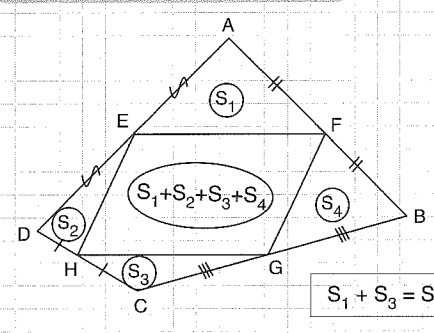
|BD| = 6 br

⇒ A(EFM) = ?

3

PUZA YAYINLARI

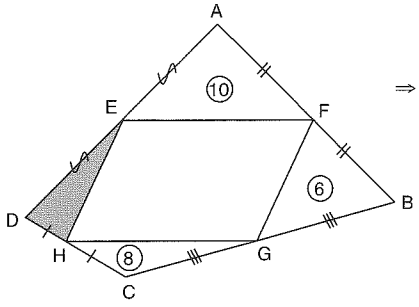
ÖZELLİK|Property 7



$S_1 + S_3 = S_2 + S_4$

$A(EFGH) = S_1 + S_2 + S_3 + S_4$

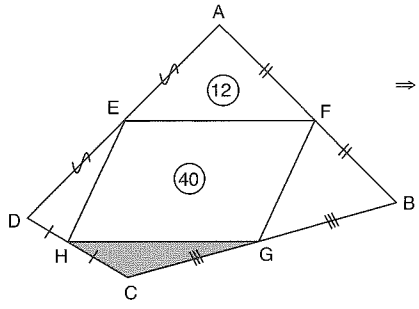
1.



⇒ A(DHE) = ?

12

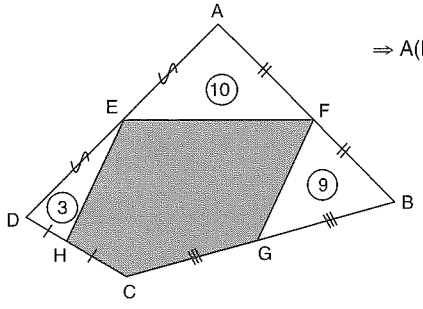
2.



⇒ A(HCG) = ?

8

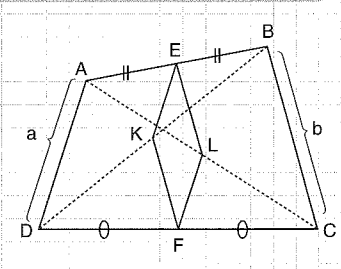
3.



⇒ A(EFGCH) = ?

26

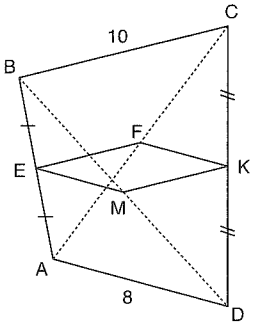
ÖZELLİK|Property 8



|AL| = |LC|
|BK| = |KD|

Ç(EKFL) = a + b

1.

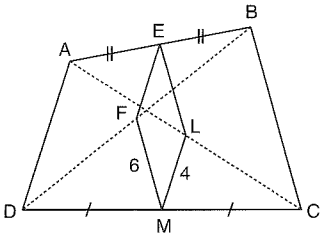


|BM| = |MD|
|AF| = |FC|

⇒ Ç(EFKM) = ?

18

2.

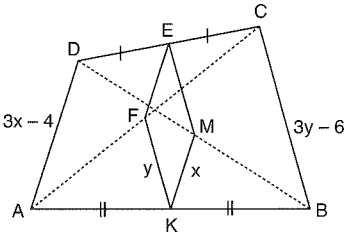


|ALI = ILCI
IDFI = IFBI

⇒ IADI + IBCI = ?

20

3.

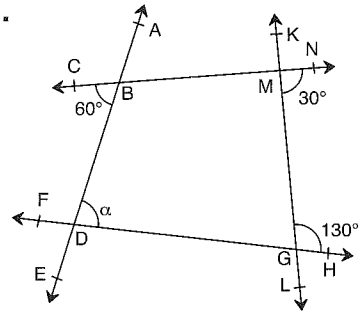


|DM| = |MB|
|AF| = |FC|
⇒ x + y = ?

10

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

1.



$m(\widehat{CBE}) = 60°$

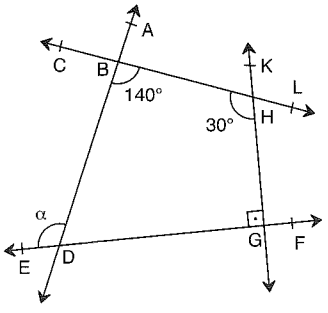
$m(\widehat{KGH}) = 130°$

$m(\widehat{NML}) = 30°$

$\Rightarrow m(\widehat{ADH}) = \alpha = ?$

A) 40 B) 50 C) 60 D) 70 E) 80

2.



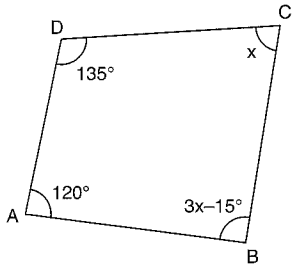
$EF \perp KG$

$m(\widehat{CHG}) = 30°$

$\Rightarrow m(\widehat{ADE}) = \alpha = ?$

A) 120 B) 100 C) 80 D) 70 E) 60

3.



$m(\widehat{A}) = 120°$

$m(\widehat{B}) = 3x - 15°$

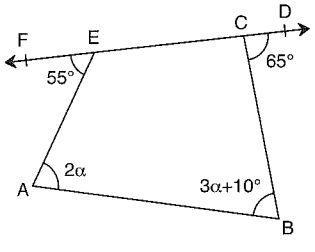
$m(\widehat{C}) = x$

$m(\widehat{D}) = 135°$

$\Rightarrow x = ?$

A) 30 B) 45 C) 50 D) 60 E) 65

4.



$m(\widehat{FEA}) = 55°$

$m(\widehat{EAB}) = 2\alpha$

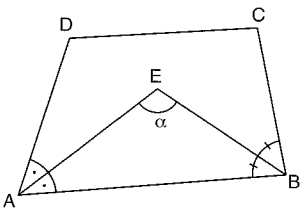
$m(\widehat{ABC}) = 3\alpha + 10°$

$m(\widehat{DCB}) = 65°$

$\Rightarrow \alpha = ?$

A) 11 B) 18 C) 22 D) 30 E) 36

5.



$m(\widehat{DAE}) = m(\widehat{EAB})$

$m(\widehat{ABE}) = m(\widehat{EBC})$

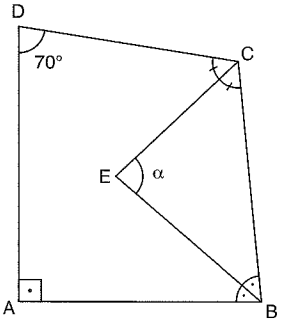
$m(\widehat{ADC}) = 48°$

$m(\widehat{DCB}) = 62°$

$\Rightarrow m(\widehat{AEB}) = \alpha = ?$

A) 40 B) 45 C) 50 D) 55 E) 60

6.



$[AD] \perp [AB]$

$m(\widehat{ABE}) = m(\widehat{EBC})$

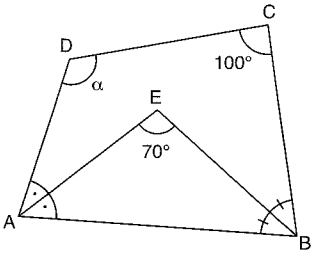
$m(\widehat{BCE}) = m(\widehat{ECD})$

$m(\widehat{ADC}) = 70°$

$\Rightarrow m(\widehat{BEC}) = \alpha = ?$

A) 50 B) 60 C) 70 D) 80 E) 85

7.



$m(\widehat{DAE}) = m(\widehat{EAB})$

$m(\widehat{ABE}) = m(\widehat{EBC})$

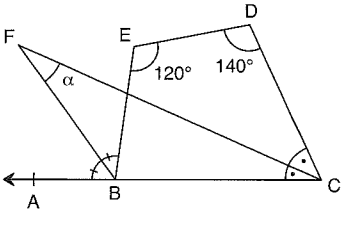
$m(\widehat{AEB}) = 70°$

$m(\widehat{BCD}) = 100°$

$\Rightarrow m(\widehat{ADC}) = \alpha = ?$

A) 10 B) 20 C) 30 D) 40 E) 50

8.



$m(\widehat{ABF}) = m(\widehat{FBE})$

$m(\widehat{ACF}) = m(\widehat{FCD})$

$m(\widehat{CDE}) = 140°$

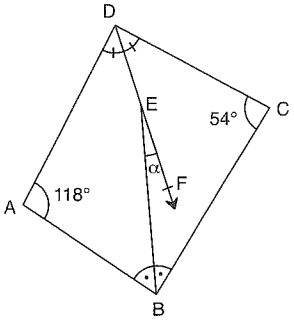
$m(\widehat{DEB}) = 120°$

$\Rightarrow m(\widehat{BFC}) = \alpha = ?$

A) 130 B) 100 C) 70 D) 50 E) 40

PUZA YAYINLARI

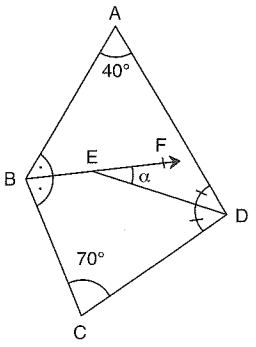
9.



$m(\widehat{ADF}) = m(\widehat{FDC})$
$m(\widehat{ABE}) = m(\widehat{EBC})$
$m(\widehat{DAB}) = 118°$
$m(\widehat{DCB}) = 54°$
$\Rightarrow m(\widehat{BEF}) = \alpha = ?$

A) 27 B) 32 C) 48 D) 54 E) 64

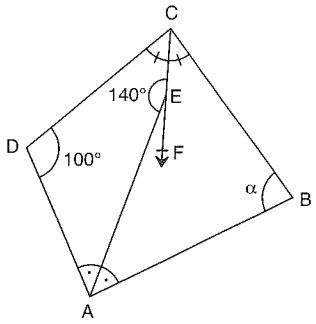
10.



$m(\widehat{ABF}) = m(\widehat{FBC})$
$m(\widehat{ADE}) = m(\widehat{EDC})$
$m(\widehat{BAD}) = 40°$
$m(\widehat{BCD}) = 70°$
$\Rightarrow m(\widehat{FED}) = \alpha = ?$

A) 70 B) 50 C) 40 D) 30 E) 15

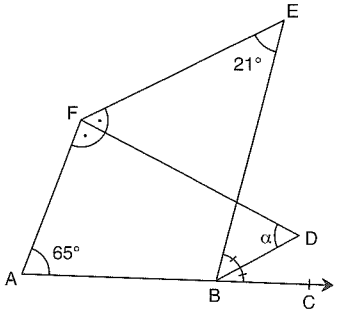
11.



$m(\widehat{DCF}) = m(\widehat{FCB})$
$m(\widehat{DAE}) = m(\widehat{EAB})$
$m(\widehat{CEA}) = 140°$
$m(\widehat{CDA}) = 100°$
$\Rightarrow m(\widehat{CBA}) = \alpha = ?$

A) 10 B) 20 C) 30 D) 40 E) 50

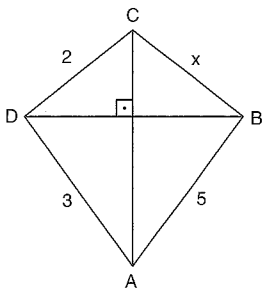
12.



$m(\widehat{EFD}) = m(\widehat{DFA})$
$m(\widehat{EBD}) = m(\widehat{DBC})$
$m(\widehat{FEB}) = 21°$
$m(\widehat{FAC}) = 65°$
$\Rightarrow m(\widehat{FDB}) = \alpha = ?$

A) 22 B) 44 C) 46 D) 56 E) 68

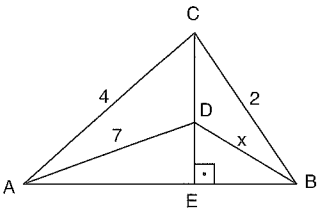
13.



$[AC] \perp [DB]$
$|AB| = 5$ br
$|CD| = 2$ br
$|DA| = 3$ br
$\Rightarrow |BC| = x = ?$

A) 4 B) $2\sqrt{5}$ C) $2\sqrt{6}$ D) $3\sqrt{6}$ E) $4\sqrt{6}$

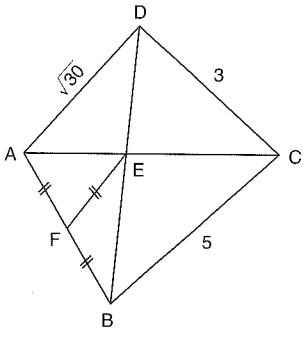
14.



$[EC] \perp [AB]$
$|AC| = 4$ br
$|AD| = 7$ br
$|BC| = 2$ br
$\Rightarrow |BD| = x = ?$

A) $2\sqrt{10}$ B) $\sqrt{39}$ C) $\sqrt{38}$ D) $\sqrt{37}$ E) 6

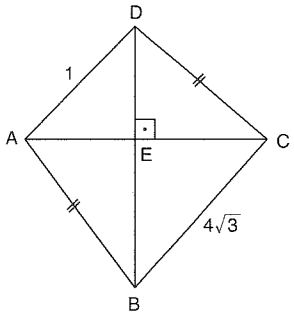
15.



$|AF| = |FB| = |FE|$
$|AD| = \sqrt{30}$ br
$|DC| = 3$ br
$|BC| = 5$ br
$\Rightarrow |AB| = ?$

A) 6 B) $2\sqrt{11}$ C) $\sqrt{46}$ D) $4\sqrt{3}$ E) 7

16.

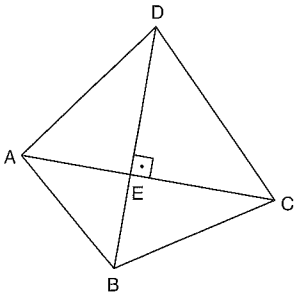


$[AC] \perp [BD]$
$|AD| = 1$ br
$|BC| = 4\sqrt{3}$ br
$|AB| = |DC|$
$\Rightarrow |AB| = ?$

A) $\sqrt{7}$ B) $\frac{7\sqrt{2}}{2}$ C) $\frac{7}{2}$ D) 7 E) 14

PUZA YAYINLARI

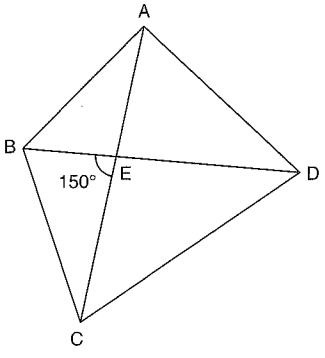
1.



$|AC| = 6$ br
$|BD| = 4$ br
$\Rightarrow A(ABCD) = ?$

A) 6 B) $6\sqrt{3}$ C) 12 D) $12\sqrt{3}$ E) 24

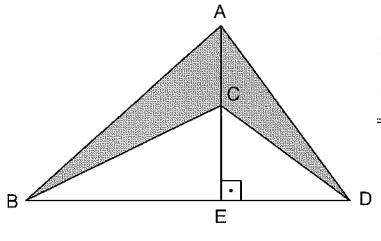
2.



$|AC| = 6$ br
$|BD| = 8$ br
$m(\widehat{BEC}) = 150°$
$\Rightarrow A(ABCD) = ?$

A) 6 B) $6\sqrt{3}$ C) 12 D) $12\sqrt{3}$ E) 24

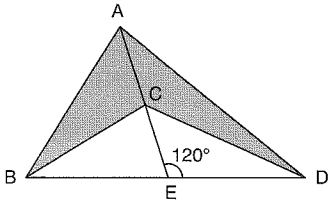
3.



$[AE] \perp BD]$
$|BD| = 6$ br
$|AC| = 2$ br
$\Rightarrow A(ABCD) = ?$

A) 3 B) $3\sqrt{2}$ C) $3\sqrt{3}$ D) 6 E) 12

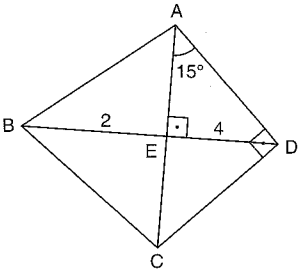
4.



$|BD| = 8$ br
$|AC| = 4$ br
$m(\widehat{AED}) = 120°$
$\Rightarrow A(ABCD) = ?$

A) 8 B) $8\sqrt{2}$ C) $8\sqrt{3}$ D) 16 E) $16\sqrt{3}$

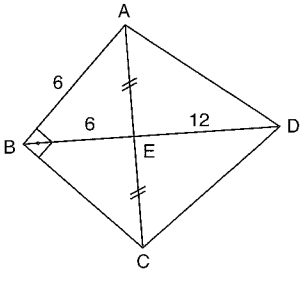
5.



$[AE] \perp [BD]$
$|BE| = 2$ br
$|ED| = 4$ br
$m(\widehat{DAC}) = 15°$
$\Rightarrow A(ABCD) = ?$

A) 48 B) $16\sqrt{3}$ C) $16\sqrt{2}$ D) 16 E) $8\sqrt{3}$

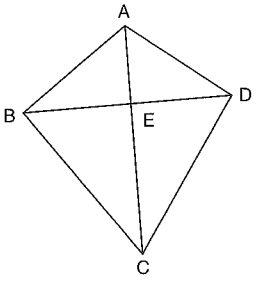
6.



$[AB] \perp [BC]$
$|AE| = |EC|$
$|BE| = 6$ br
$|AB| = 6$ br
$|ED| = 12$ br
$\Rightarrow A(ABCD) = ?$

A) 27 B) $27\sqrt{2}$ C) $48\sqrt{3}$ D) 54 E) $54\sqrt{3}$

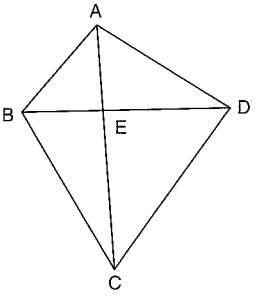
7.



$|EC| = 2|AE|$
$A(ABD) = 40$ br^2
$\Rightarrow A(ABCD) = ?$

A) 20 B) 40 C) 60 D) 80 E) 120

8.

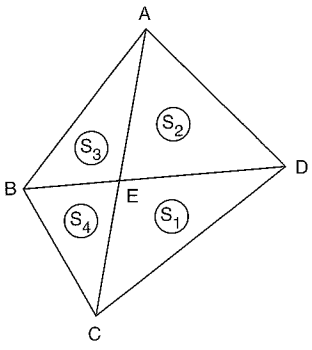


$3|AE| = 2|EC|$
$A(ABCD) = 60$ br^2
$\Rightarrow A(ABD) = ?$

A) 60 B) 48 C) 36 D) 24 E) 12

PUZA YAYINLARI

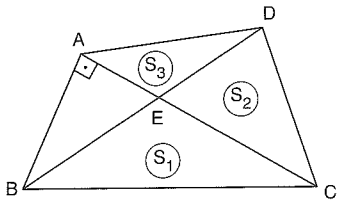
9.



$S_2 = 6\ br^2$
$S_3 = 2\ br^2$
$S_4 = 4\ br^2$
$\Rightarrow S_1 = ?$

A) 2 B) 4 C) 6 D) 12 E) 18

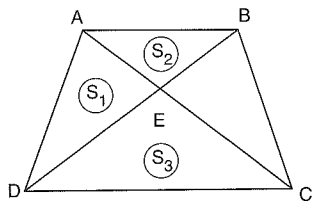
10.



$[AB] \perp [CA]$
$S_3 = 4\ br^2$
$S_2 = 4\sqrt{3}\ br^2$
$|AE| = 2\ br$
$|BE| = 4\ br$
$\Rightarrow S_1 = ?$

A) 12 B) 6 C) $4\sqrt{3}$ D) $3\sqrt{3}$ E) $2\sqrt{3}$

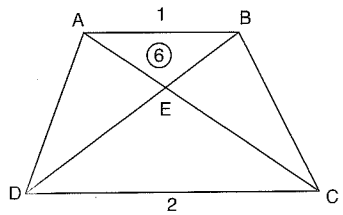
11.



$[AB] // [DC]$
$S_2 = 4\ br^2$
$S_3 = 8\ br^2$
$\Rightarrow S_1 = ?$

A) 2 B) $2\sqrt{3}$ C) 4 D) $4\sqrt{2}$ E) $4\sqrt{3}$

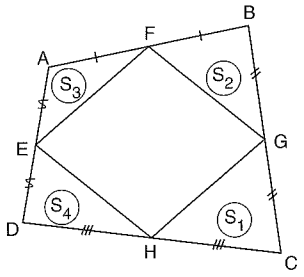
12.



$[AB] // [DC]$
$|AB| = 1\ br$
$|DC| = 2\ br$
$A(ABE) = 6\ br^2$
$\Rightarrow A(ABCD) = ?$

A) 18 B) 24 C) 27 D) 36 E) 54

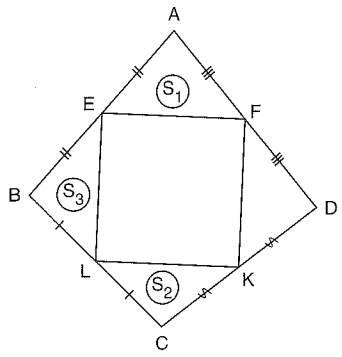
13.



$|AF| = |FB|$
$|BG| = |GC|$
$|CH| = |HD|$
$|DE| = |EA|$
$S_2 = 12\ br^2$
$S_3 = 8\ br^2$
$S_4 = 14\ br^2$
$\Rightarrow S_1 = ?$

A) 18 B) 20 C) 24 D) 26 E) 30

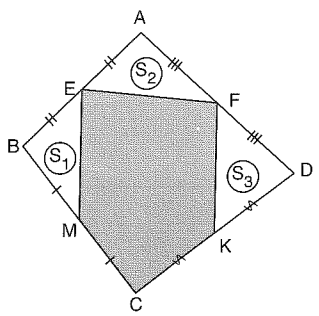
14.



$|AE| = |EB|$
$|BL| = |LC|$
$|CK| = |KD|$
$|DF| = |FA|$
$S_1 = 10\ br^2$
$S_2 = 14\ br^2$
$S_3 = 10\ br^2$
$\Rightarrow A(EFKL) = ?$

A) 12 B) 24 C) 36 D) 48 E) 96

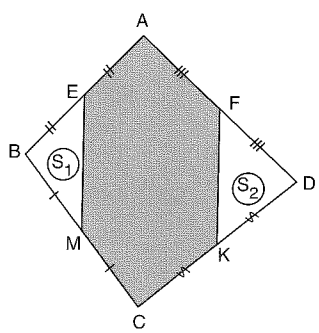
15.



$|AE| = |EB|$
$|BM| = |MC|$
$|CK| = |KD|$
$|DF| = |FA|$
$S_1 = 6\ br^2$
$S_2 = 4\ br^2$
$S_3 = 8\ br^2$
$\Rightarrow A(EFKCM) = ?$

A) 14 B) 28 C) 30 D) 38 E) 40

16.

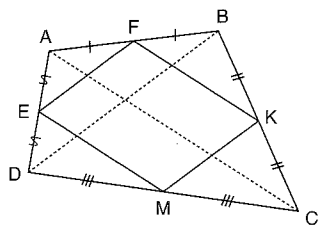


$|AE| = |EB|$
$|BM| = |MC|$
$|CK| = |KD|$
$|DF| = |FA|$
$S_1 = 5\ br^2$
$S_2 = 7\ br^2$
$\Rightarrow$ Taralı Alan = ?
Shaded Area = ?

A) 12 B) 24 C) 36 D) 48 E) 60

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

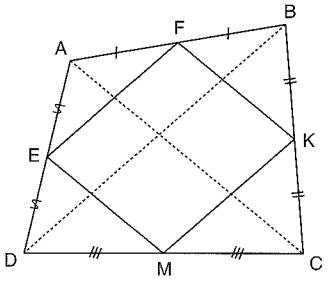
1.



$|AF| = |FB|$
$|BK| = |KC|$
$|CM| = |MD|$
$|DE| = |EA|$
$|AC| = 5$ br
$|BD| = 6$ br
$\Rightarrow$ Ç(EFKM) = ?

A) 6 B) 11 C) 22 D) 44 E) 54

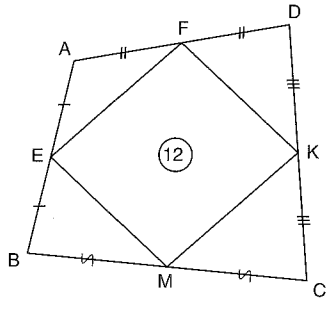
2.



$|AF| = |FB|$
$|BK| = |KC|$
$|CM| = |MD|$
$|DE| = |EA|$
$|EF| = 4$ br
$|FK| = 6$ br
$\Rightarrow |AC| + |BD| = ?$

A) 60 B) 40 C) 30 D) 20 E) 10

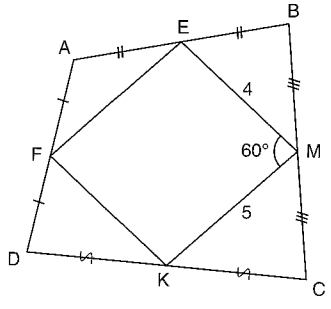
3.



$|AE| = |EB|$
$|BM| = |MC|$
$|DF| = |FA|$
$|CK| = |KD|$
$A(EFKM) = 12$ br^2
$\Rightarrow$ A(ABCD) = ?

A) 48 B) 24 C) 12 D) 8 E) 6

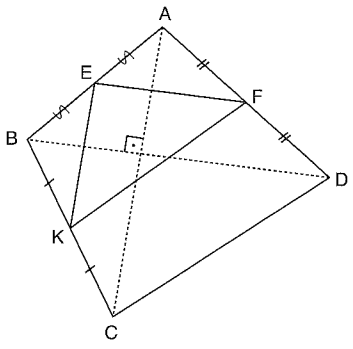
4.



$|AE| = |EB|$
$|BM| = |MC|$
$|CK| = |KD|$
$|DF| = |FA|$
$|EM| = 4$ br
$|KM| = 5$ br
$m(\widehat{KME}) = 60°$
$\Rightarrow$ A(ABCD) = ?

A) $5\sqrt{3}$ B) 10 C) $10\sqrt{3}$ D) $15\sqrt{3}$ E) $20\sqrt{3}$

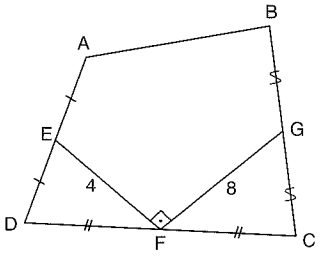
5.



$|AF| = |FD|$
$|AE| = |EB|$
$|BK| = |KC|$
$[AC] \perp [BD]$
$|AC| = 4\sqrt{2}$ br
$|BD| = 4$ br
$\Rightarrow$ A(EFK) = ?

A) $2\sqrt{2}$ B) 4 C) $4\sqrt{2}$ D) 8 E) $8\sqrt{2}$

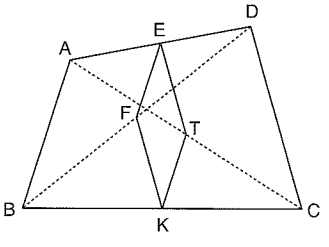
6.



$[EF] \perp [FG]$
$|AE| = |ED|$
$|DF| = |FC|$
$|CG| = |GB|$
$|EF| = 4$ br
$|FG| = 8$ br
$\Rightarrow$ A(ABCD) = ?

A) 16 B) 32 C) 36 D) 48 E) 64

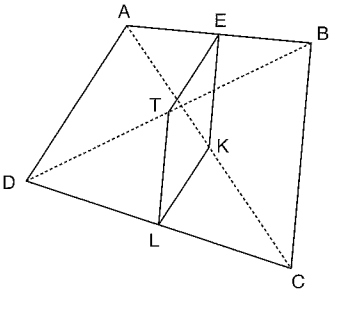
7.



$|AE| = |ED|$
$|BK| = |KC|$
$|AT| = |TC|$
$|BF| = |FD|$
$|AB| = 10$ br
$|DC| = 8$ br
$\Rightarrow$ Ç(EFKT) = ?

A) 8 B) 9 C) 16 D) 18 E) 24

8.

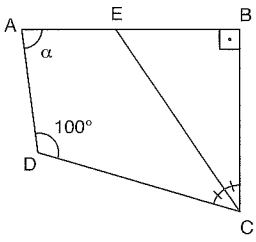


$|AE| = |EB|$
$|DL| = |LC|$
$|AK| = |KC|$
$|BT| = |TD|$
$|TL| = 6$ br
$|LK| = 4$ br
$\Rightarrow |AD| + |BC| = ?$

A) 2 B) 4 C) 6 D) 10 E) 20

PUZA YAYINLARI

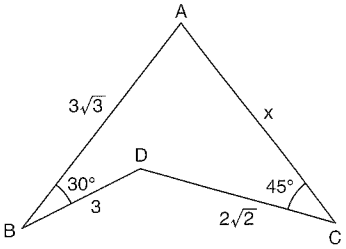
9.



$[AB] \perp [BC]$
$2|EB| = \sqrt{3}\,|EC|$
$m(\widehat{DCE}) = m(\widehat{ECB})$
$m(\widehat{ADC}) = 100°$
$\Rightarrow m(\widehat{DAB}) = \alpha = ?$

A) 50 B) 70 C) 80 D) 110 E) 150

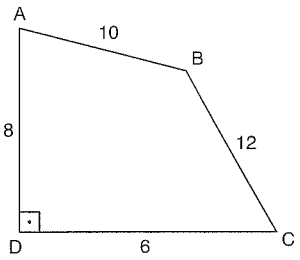
10.



$|AB| = 3\sqrt{3}$ br
$|BD| = 3$ br
$|DC| = 2\sqrt{2}$ br
$m(\widehat{ABD}) = 30°$
$m(\widehat{ACD}) = 45°$
$\Rightarrow |AC| = x = ?$

A) $\sqrt{5}$ B) $2\sqrt{5}$ C) $2+\sqrt{5}$
D) $3+\sqrt{5}$ E) 6

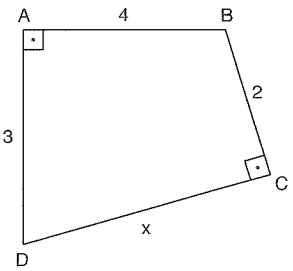
11.



$[AD] \perp [DC]$
$|AD| = 8$ br
$|DC| = 6$ br
$|BC| = 12$ br
$|AB| = 10$ br
$\Rightarrow A(ABCD) = ?$

A) 16 B) 32 C) 48 D) 72 E) 86

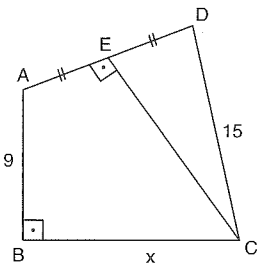
12.



$[AD] \perp [AB]$
$[BC] \perp [DC]$
$|AD| = 3$ br
$|AB| = 4$ br
$|BC| = 2$ br
$\Rightarrow |DC| = x = ?$

A) $2\sqrt{3}$ B) $3\sqrt{2}$ C) 4 D) $\sqrt{21}$ E) $\sqrt{29}$

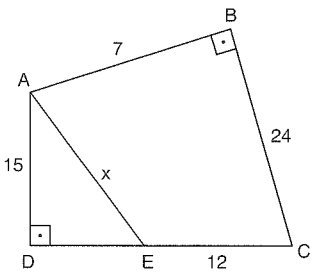
13.



$[AD] \perp [EC]$
$[AB] \perp [BC]$
$|AB| = 9$ br
$|AE| = |ED|$
$|CD| = 15$ br
$\Rightarrow |BC| = x = ?$

A) 9 B) 12 C) 15 D) 17 E) 25

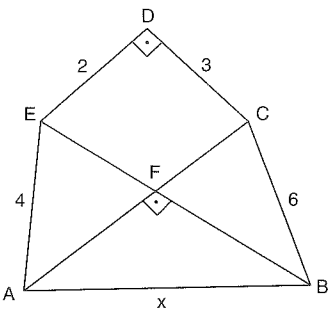
14.



$[AB] \perp [BC]$
$[AD] \perp [DC]$
$|AD| = 15$ br
$|AB| = 7$ br
$|BC| = 24$ br
$|EC| = 12$ br
$\Rightarrow |AE| = x = ?$

A) 8 B) 12 C) 17 D) 20 E) 25

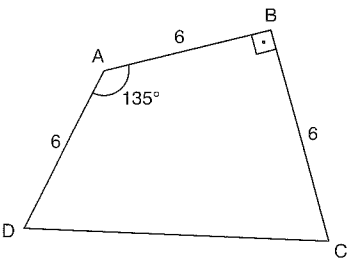
15.



$[ED] \perp [DC]$
$[AC] \perp [EB]$
$|DE| = 2$ br
$|EA| = 4$ br
$|BC| = 6$ br
$|CD| = 3$ br
$\Rightarrow |AB| = x = ?$

A) 4 B) $3\sqrt{3}$ C) 6 D) $\sqrt{39}$ E) 7

16.



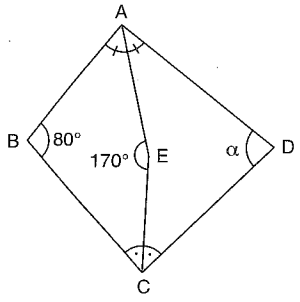
$[AB] \perp [BC]$
$m(\widehat{DAB}) = 135°$
$|AB| = 6$ br
$|AD| = 6$ br
$|BC| = 6$ br
$\Rightarrow A(ABCD) = ?$

A) $18(\sqrt{3}+1)$ B) $18(\sqrt{2}+1)$ C) $9(\sqrt{3}+1)$
D) $9(\sqrt{2}+1)$ E) $9\sqrt{2}$

PUZA YAYINLARI

www.ztcprep.com

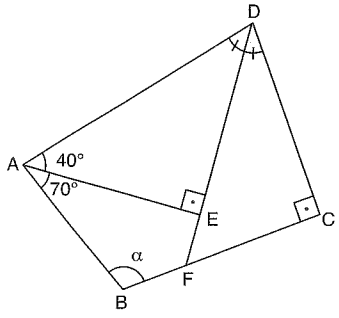
1.



$m(\widehat{D}) < 100°$
$m(\widehat{BAE}) = m(\widehat{EAD})$
$m(\widehat{BCE}) = m(\widehat{ECD})$
$m(\widehat{ABC}) = 80°$
$m(\widehat{AEC}) = 170°$
$\Rightarrow m(\widehat{ADC}) = \alpha = ?$

A) 90 B) 80 C) 70 D) 60 E) 50

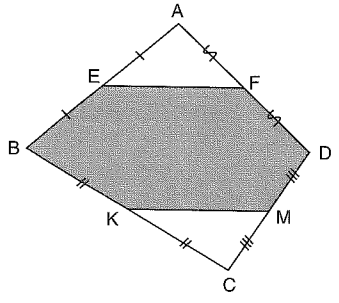
2.



$m(\widehat{ADF}) = m(\widehat{FDC})$
$[DC] \perp [CB]$
$[AE] \perp [DF]$
$m(\widehat{DAE}) = 40°$
$m(\widehat{EAB}) = 70°$
$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 80 B) 70 C) 60 D) 50 E) 40

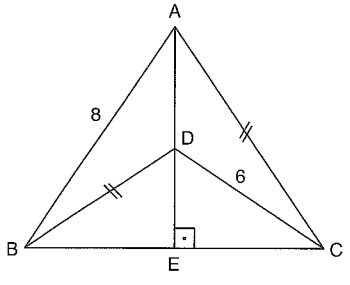
3.



$|AE| = |EB|$
$|BK| = |KC|$
$|CM| = |MD|$
$|DF| = |FA|$
$A(AEF) = 6\ br^2$
$A(KMC) = 4\ br^2$
$\Rightarrow A(EFDMKB) = ?$

A) 45 B) 30 C) 20 D) 15 E) 10

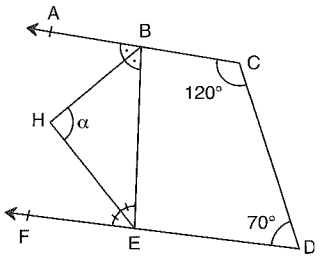
4.



$[AE] \perp [BC]$
$|AC| = |BD|$
$|DC| = 6\ br$
$|AB| = 8\ br$
$\Rightarrow |AC| = x = ?$

A) $10\sqrt{2}$ B) 10 C) $5\sqrt{2}$ D) 5 E) 4

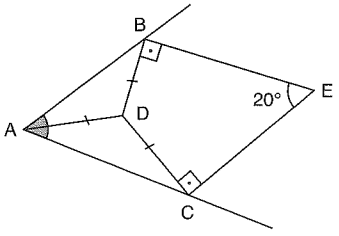
5.



$m(\widehat{ABH}) = m(\widehat{HBE})$
$m(\widehat{FEH}) = m(\widehat{HEB})$
$m(\widehat{ACD}) = 120°$
$m(\widehat{CDF}) = 70°$
$\Rightarrow m(\widehat{BHE}) = \alpha = ?$

A) 85 B) 95 C) 100 D) 105 E) 110

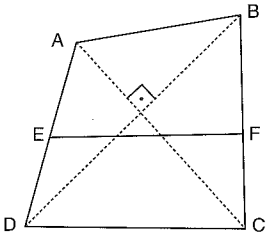
6.



$[BD] \perp [BE]$
$[DC] \perp [CE]$
$m(\widehat{BEC}) = 20°$
$|BD| = |DC| = |AD|$
$\Rightarrow m(\widehat{BAC}) = ?$

A) 160 B) 120 C) 100 D) 80 E) 40

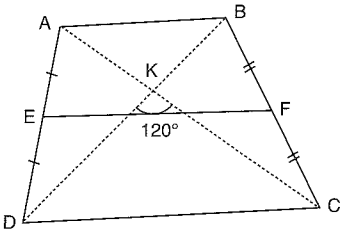
7.



$|AE| = |ED|$
$|BF| = |FC|$
$[AC] \perp [BD]$
$|AC| = 6\ br$
$|BD| = 12\ br$
$\Rightarrow |EF| = ?$

A) $3\sqrt{5}$ B) $6\sqrt{5}$ C) $9\sqrt{2}$ D) $12\sqrt{5}$ E) $15\sqrt{2}$

8.

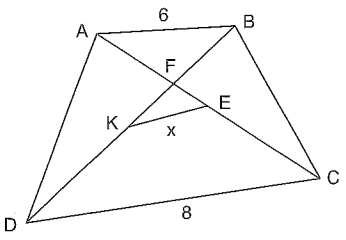


$|AE| = |ED|$
$|BF| = |FC|$
$m(\widehat{DKC}) = 120°$
$|AC| = 8\ br$
$|BD| = 8\ br$
$\Rightarrow |EF| = ?$

A) $4\sqrt{3}$ B) 6 C) $8\sqrt{2}$ D) $8\sqrt{3}$ E) 10

PUZA YAYINLARI

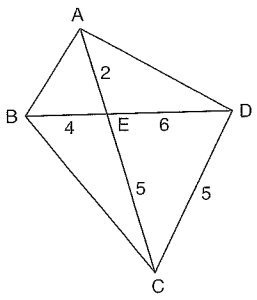
9.



$|KB| = |DK|$
$|AE| = |EC|$
$|AB| = 6$ br
$|DC| = 8$ br
$x \in Z$
$|KE| = x$
$\Rightarrow \sum x = ?$

A) 18 B) 20 C) 21 D) 22 E) 24

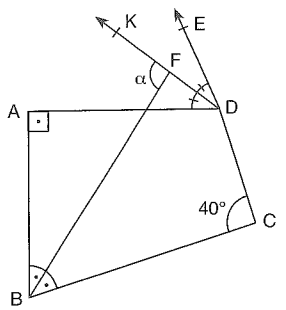
10.



$|AE| = 2$ br
$|BE| = 4$ br
$|CE| = 5$ br
$|CD| = 5$ br
$|DE| = 6$ br
$\Rightarrow A(ABCD) = ?$

A) 14 B) 18 C) 20 D) 28 E) 40

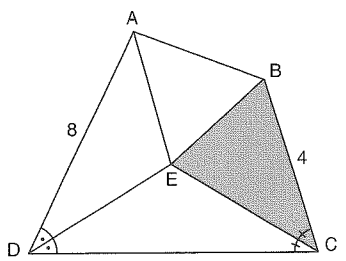
11.



$m(\widehat{ADK}) = m(\widehat{KDE})$
$m(\widehat{ABF}) = m(\widehat{FBC})$
$m(\widehat{BCE}) = 40°$
$[AD] \perp [AB]$
$\Rightarrow m(\widehat{KFB}) = \alpha = ?$

A) 115 B) 65 C) 50 D) 40 E) 25

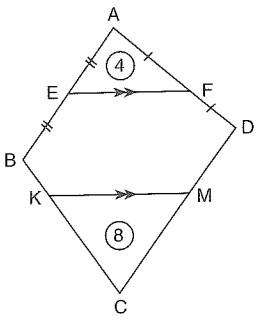
12.



$m(\widehat{ADE}) = m(\widehat{EDC})$
$m(\widehat{DCE}) = m(\widehat{ECB})$
$|AD| = 8$ br
$|BC| = 4$ br
$A(AED) = 8\sqrt{3}$ br^2
$\Rightarrow A(EBC) = ?$

A) $3\sqrt{3}$ B) $4\sqrt{3}$ C) $6\sqrt{3}$ D) 12 E) $12\sqrt{3}$

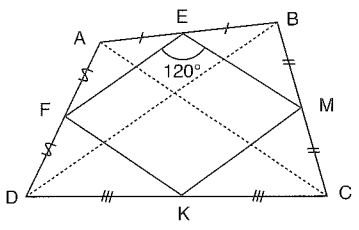
13.



$[EF] // [KM]$
$|AE| = |BE|$
$|AF| = |FD|$
$|KC| = 2|BK|$
$A(AEF) = 4$ br^2
$A(KMC) = 8$ br^2
$\Rightarrow A(ABCD) = ?$

A) 12 B) 16 C) 24 D) 30 E) 34

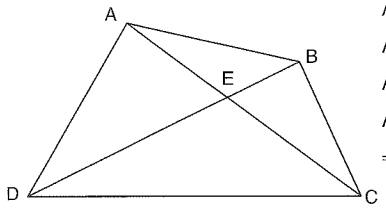
14.



$|AE| = |EB|$
$|BM| = |MC|$
$|CK| = |KD|$
$|DF| = |FA|$
$m(\widehat{FEM}) = 120°$
$|AC| = 8$ br
$|BD| = 6$ br
$\Rightarrow A(EFKM) = ?$

A) 3 B) $3\sqrt{3}$ C) 6 D) $6\sqrt{3}$ E) 12

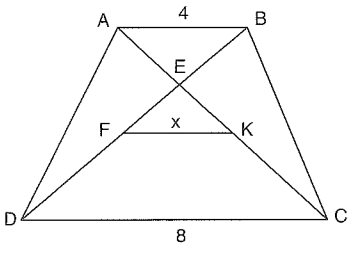
15.



$A(AEB) = S - 2$
$A(BEC) = S - 1$
$A(DEC) = 3S - 1$
$A(AED) = S + 1$
$\Rightarrow A(ABCD) = ?$

A) 9 B) 12 C) 15 D) 16 E) 18

16.



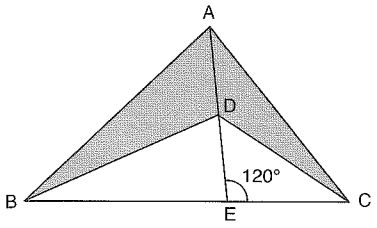
$x \in Z^+$
$|AK| = |KC|$
$|BF| = |FD|$
$|AB| = 4$ br
$|DC| = 8$ br
$\Rightarrow \min(|FK|) = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

DEHA YAYINLARI

www.ztcprep.com

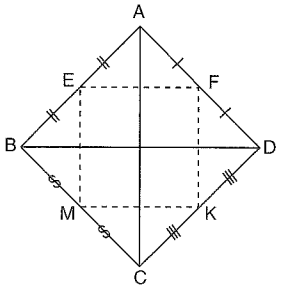
1.



$|AD| = 2$ br
$|BC| = 4\sqrt{2}$ br
$m(\widehat{AEC}) = 120°$
$\Rightarrow A(ABDC) = ?$

A) $2\sqrt{2}$ B) 4 C) $2\sqrt{6}$ D) $4\sqrt{2}$ E) 8

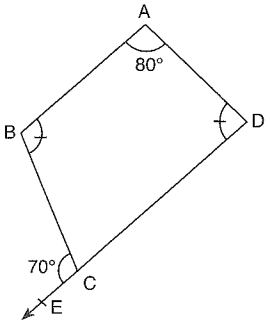
2.



$|BE| = |EA|$
$|AF| = |FD|$
$|BM| = |MC|$
$|CK| = |KD|$
$|AC| + |BD| = 12$ br
$\Rightarrow$ Ç(EFKM) = ?

A) 6 B) 12 C) 24 D) 36 E) 48

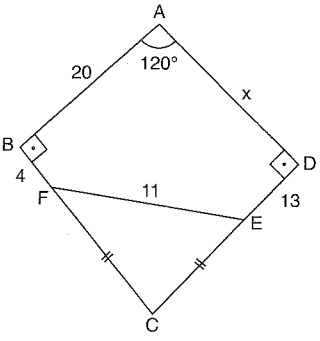
3.



$m(\widehat{A}) = 80°$
$m(\widehat{BCE}) = 70°$
$m(\widehat{B}) = m(\widehat{D})$
$\Rightarrow m(\widehat{ABC}) = ?$

A) 65 B) 70 C) 80 D) 85 E) 90

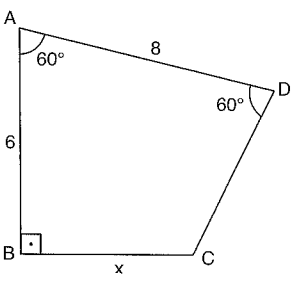
4.



$|AB| = 20$ br
$|BF| = 4$ br
$|DE| = 13$ br
$|FE| = 11$ br
$|FC| = |CE|$
$m(\widehat{A}) = 120°$
$\Rightarrow |AD| = x = ?$

A) 6 B) 7 C) 8 D) 9 E) 10

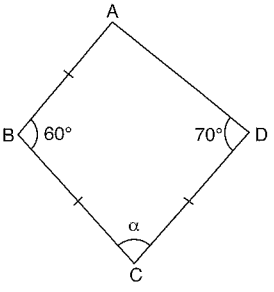
5.



$[AB] \perp [BC]$
$|AB| = 6$ br
$|AD| = 8$ br
$m(\widehat{A}) = m(\widehat{D}) = 60°$
$\Rightarrow |BC| = x = ?$

A) $\sqrt{3}$ B) $2\sqrt{3}$ C) $3\sqrt{3}$ D) $4\sqrt{3}$ E) $6\sqrt{3}$

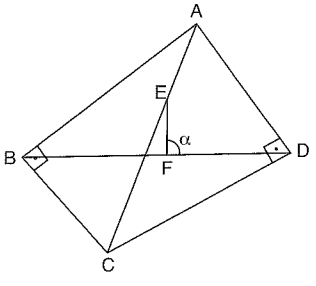
6.



$|AB| = |BC| = |CD|$
$m(\widehat{D}) = 70°$
$m(\widehat{B}) = 60°$
$\Rightarrow m(\widehat{C}) = \alpha = ?$

A) 100 B) 80 C) 60 D) 50 E) 40

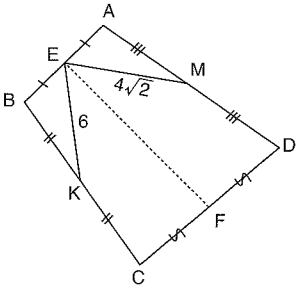
7.



$[AB] \perp [BC]$
$[AD] \perp [DC]$
$|BF| = |FD|$
$|AE| = |EC|$
$\Rightarrow m(\widehat{EFD}) = \alpha = ?$

A) 120 B) 110 C) 105 D) 100 E) 90

8.



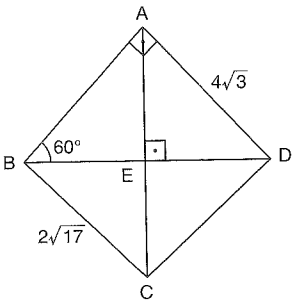
$|AE| = |EB|$
$|BK| = |KC|$
$|CF| = |FD|$
$|DM| = |MA|$
$|EM| = 4\sqrt{2}$ br
$|EK| = 6$ br
$m(\widehat{MEK}) = 135°$
$\Rightarrow |EF| = ?$

A) $2\sqrt{5}$ B) $12\sqrt{2}$ C) 18 D) 24 E) 48

PUZA YAYINLARI

www.ztcprep.com

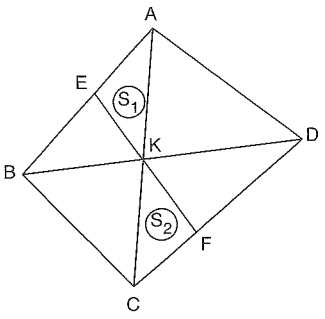
9.



$[BA] \perp [AD]$
$[AE] \perp [BD]$
$m(\widehat{ABD}) = 60°$
$|AD| = 4\sqrt{3}$
$|BC| = 2\sqrt{17}$
$\Rightarrow |CD| = x = ?$

A) 10 B) $\sqrt{79}$ C) 8 D) $2\sqrt{15}$ E) 6

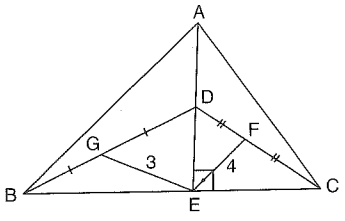
10.



$|AE| = |EB|$
$3|CF| = 2|FD|$
$A(AKD) = 5\ br^2$
$A(BKC) = 12\ br^2$
$A(AEK) = S_1$
$A(KFC) = S_2$
$\Rightarrow S_1 \cdot S_2 = ?$

A) 9 B) 10 C) 12 D) 18 E) 24

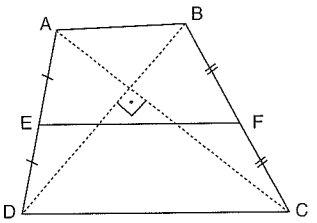
11.



$[AE] \perp [BC]$
$|BG| = |GD|$
$|DF| = |FC|$
$|GE| = 3\ br$
$|FE| = 4\ br$
$|AC| = a$
$|AB| = b$
$\Rightarrow a^2 - b^2 = ?$

A) 5 B) $2\sqrt{7}$ C) $4\sqrt{3}$ D) 18 E) 28

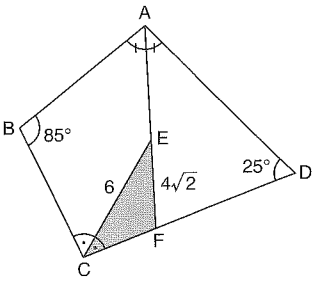
12.



$[AC] \perp [BD]$
$|AE| = |ED|$
$|BF| = |FC|$
$|AC| = 15\ br$
$|BD| = 20\ br$
$\Rightarrow |EF| = ?$

A) 50 B) 25 C) 20 D) $\frac{25}{2}$ E) 12

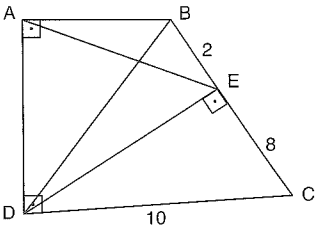
13.



$m(\widehat{BCE}) = m(\widehat{ECD})$
$m(\widehat{BAF}) = m(\widehat{FAD})$
$m(\widehat{ABC}) = 85°$
$m(\widehat{ADC}) = 25°$
$|EF| = 4\sqrt{2}\ br$
$|CE| = 6\ br$
$\Rightarrow A(ECF) = ?$

A) 6 B) $6\sqrt{2}$ C) $6\sqrt{3}$ D) 12 E) $12\sqrt{2}$

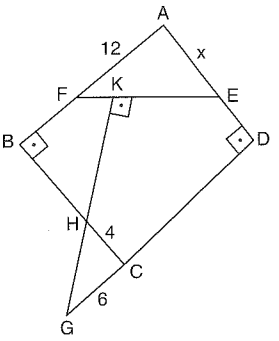
14.



$[AB] \perp [AD]$
$[AD] \perp [DC]$
$[DE] \perp [BC]$
$|BE| = 2\ br$
$|EC| = 8\ br$
$|DC| = 10\ br$
$\Rightarrow |AB| = ?$

A) 1 B) 2 C) $2\sqrt{3}$ D) 6 E) 8

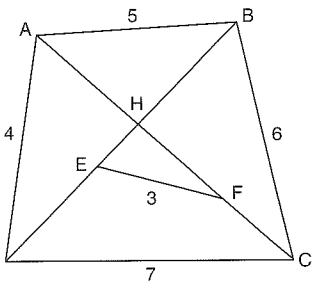
15.



$[GK] \perp [FE]$
$[AB] \perp [BC]$
$[AD] \perp [DG]$
$|AF| = 12\ br$
$|HC| = 4\ br$
$|GC| = 6\ br$
$\Rightarrow |AE| = x = ?$

A) 18 B) 16 C) 12 D) 8 E) 6

16.



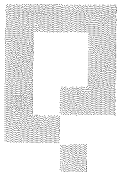
$|AF| = |FC|$
$|BE| = |ED|$
$|EF| = 3\ br$
$|AD| = 4\ br$
$|BC| = 6\ br$
$|AB| = 5\ br$
$|DC| = 7\ br$
$\Rightarrow |AC|^2 + |BD|^2 = ?$

A) 90 B) 81 C) 80 D) 78 E) 72

PUZA YAYINLARI

www.ztcprep.com

ZTC زنگنه مجموعه موسسات



DÖRTGENLER QUADRILATERALS

Yanıt Anahtarı Answer Key

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	C	A	C	D	D	D	E	B	E	B	E	B	D	C	B

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	C	D	C	A	E	E	D	D	B	D	E	A	D	D	C

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	D	B	E	A	E	D	E	A	C	D	D	B	C	D	B

TEST 4

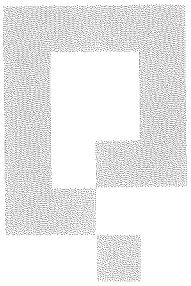
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	B	C	A	D	A	A	B	D	A	B	E	D	C	C

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	B	D	B	B	A	E	A	A	C	E	D	B	B	A	A

www.ztcprep.com

ZTC زنگنه
مجموعه موسسات

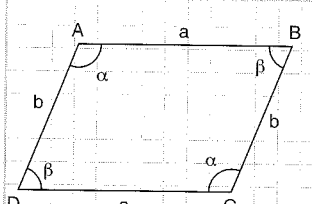


PARALELKENAR

PARALLELOGRAM

www.ztcprep.com

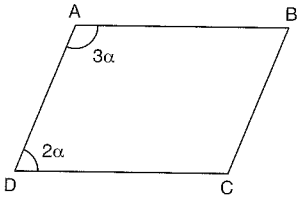
ÖZELLİK/Property 1



ABCD paralelkenar
ABCD parallelogram
[AB] // [DC]
[AD] // [BC]

$\alpha + \beta = 180°$

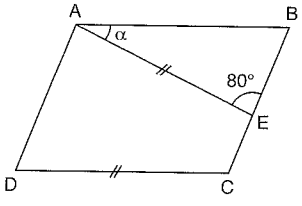
1.



ABCD paralelkenar
ABCD parallelogram
$\Rightarrow m(\widehat{C}) = ?$

108

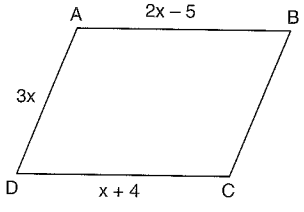
2.



ABCD paralelkenar
ABCD parallelogram
$|AE| = |DC|$
$\Rightarrow \alpha = ?$

20

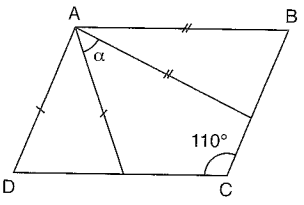
3.



ABCD paralelkenar
ABCD parallelogram
$\Rightarrow |BC| = ?$

27

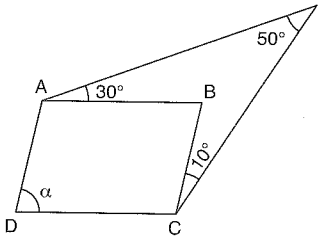
4.



ABCD paralelkenar
ABCD parallelogram
$\Rightarrow \alpha = ?$

30

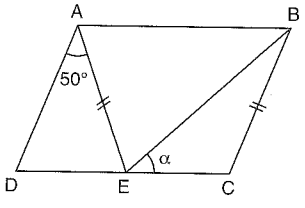
5.



ABCD paralelkenar
ABCD parallelogram
$\Rightarrow \alpha = ?$

90

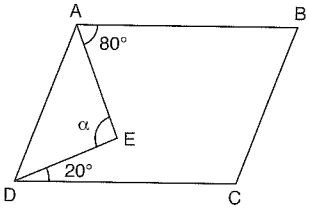
6.



ABCD paralelkenar
ABCD parallelogram
$|BE| = |DC|$
$|BC| = |AE|$
$\Rightarrow \alpha = ?$

50

7.



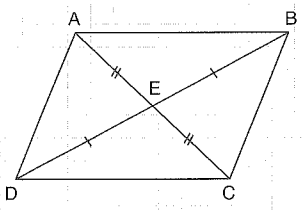
ABCD paralelkenar
ABCD parallelogram
$\Rightarrow \alpha = ?$

100

PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK|Property 2



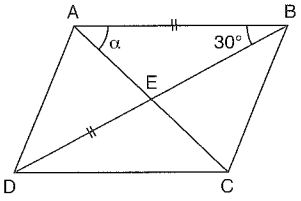
ABCD paralelkenar

ABCD parallelogram

$|AE| = |EC|$

$|DE| = |EB|$

1.



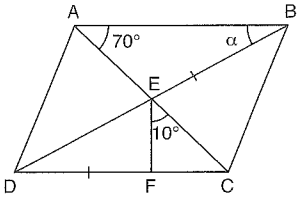
ABCD paralelkenar

ABCD parallelogram

$\Rightarrow \alpha = ?$

75

2.



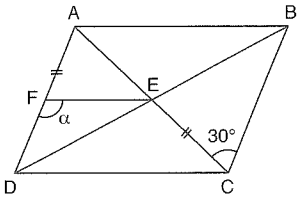
ABCD paralelkenar

ABCD parallelogram

$\Rightarrow \alpha = ?$

20

3.



ABCD paralelkenar

ABCD parallelogram

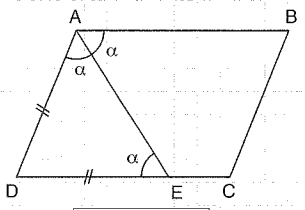
$\Rightarrow \alpha = ?$

105

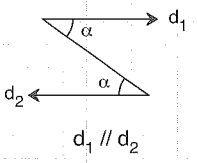
ÖZELLİK|Property 3

ABCD paralelkenar

ABCD parallelogram

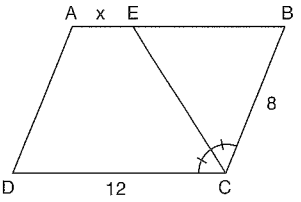


$|AD| = |DE|$



$d_1 \,//\, d_2$

1.



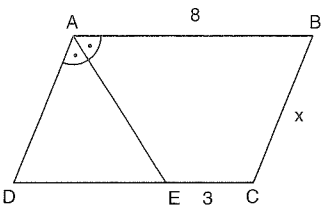
ABCD paralelkenar

ABCD parallelogram

$\Rightarrow x = ?$

4

2.



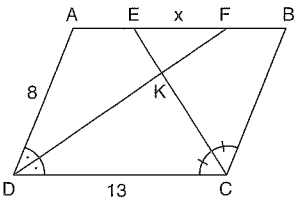
ABCD paralelkenar

ABCD parallelogram

$\Rightarrow x = ?$

5

3.



ABCD paralelkenar

ABCD parallelogram

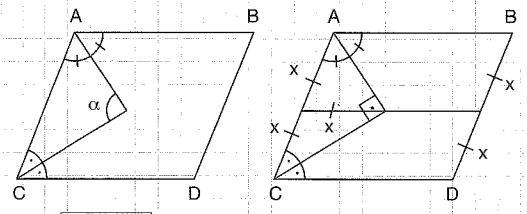
$\Rightarrow x = ?$

3

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

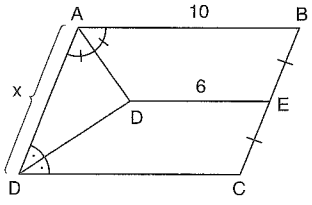
ÖZELLİK|Property 4

ABCD paralelkenar I *ABCD parallelogram*



$\alpha = 90°$

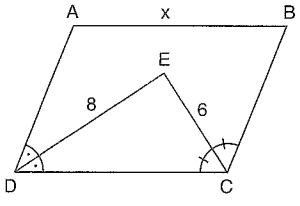
1.



ABCD paralelkenar
ABCD parallelogram
$\Rightarrow x = ?$

8

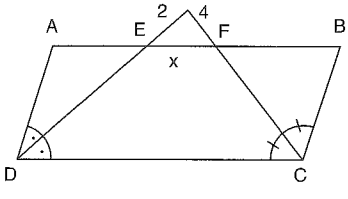
2.



ABCD paralelkenar
ABCD parallelogram
$\Rightarrow x = ?$

10

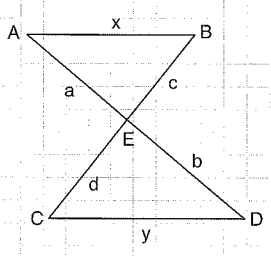
3.



ABCD paralelkenar
ABCD parallelogram
$\Rightarrow x = ?$

$2\sqrt{5}$

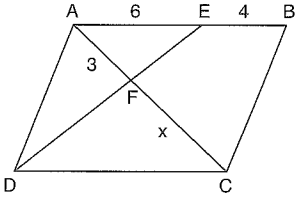
ÖZELLİK|Property 5



[AB] // [CD]

$$\frac{x}{y} = \frac{a}{b} = \frac{c}{d}$$

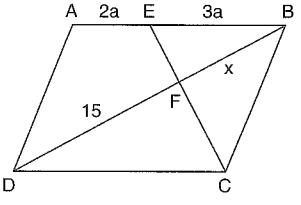
1.



ABCD paralelkenar
ABCD parallelogram
$\Rightarrow x = ?$

5

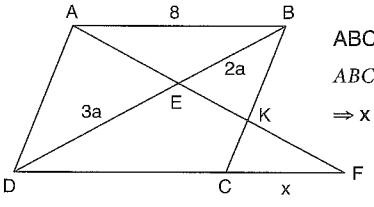
2.



ABCD paralelkenar
ABCD parallelogram
$\Rightarrow x = ?$

9

3.



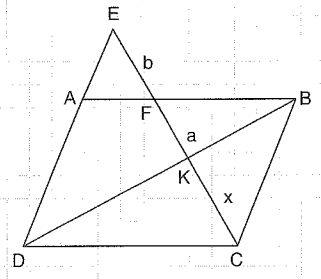
ABCD paralelkenar
ABCD parallelogram
$\Rightarrow x = ?$

4

PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK/Property 6

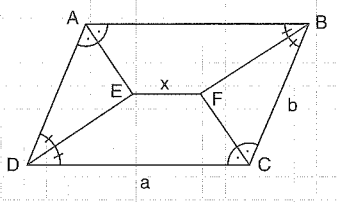


ABCD paralelkenar

ABCD parallelogram

$x^2 = a(a + b)$

ÖZELLİK/Property 7

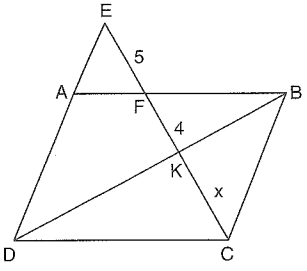


ABCD paralelkenar

ABCD parallelogram

$x = a - b$

1.



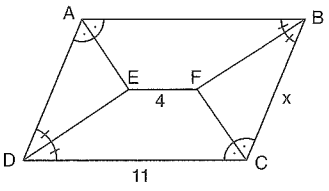
ABCD paralelkenar

ABCD parallelogram

$\Rightarrow x = ?$

6

1.



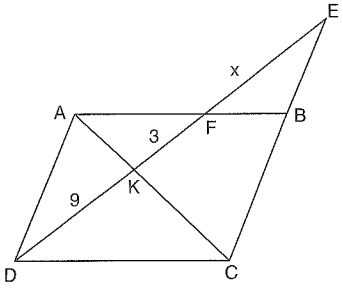
ABCD paralelkenar

ABCD parallelogram

$\Rightarrow x = ?$

7

2.



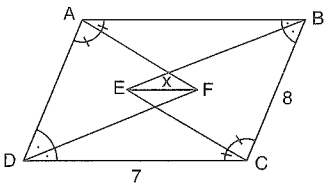
ABCD paralelkenar

ABCD parallelogram

$\Rightarrow x = ?$

24

2.



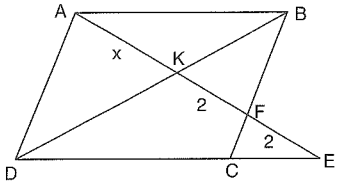
ABCD paralelkenar

ABCD parallelogram

$\Rightarrow x = ?$

1

3.



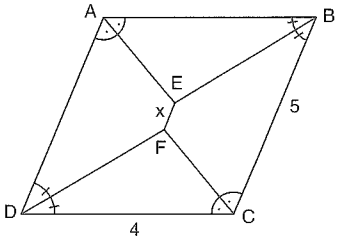
ABCD paralelkenar

ABCD parallelogram

$\Rightarrow x = ?$

$2\sqrt{2}$

3.



ABCD paralelkenar

ABCD parallelogram

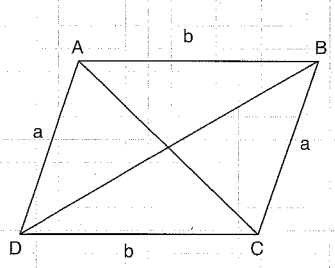
$\Rightarrow x = ?$

1

© PUZA YAYINLARI

www.ztcprep.com

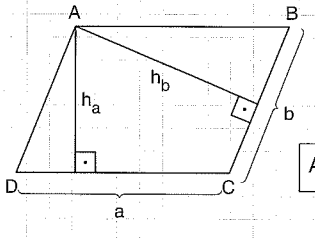
ÖZELLİK | Property 8



ABCD paralelkenar
ABCD parallelogram
$|AC| = e$
$|BD| = f$

$$2(a^2 + b^2) = e^2 + f^2$$

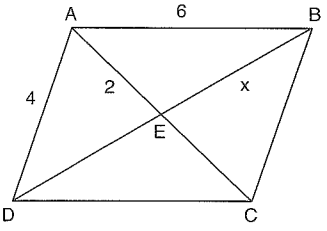
ÖZELLİK | Property 9



ABCD paralelkenar
ABCD parallelogram

$$A(ABCD) = a \cdot h_a = b \cdot h_b$$

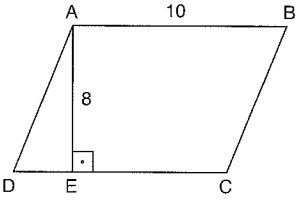
1.



ABCD paralelkenar
ABCD parallelogram
$\Rightarrow x = ?$

$\sqrt{22}$

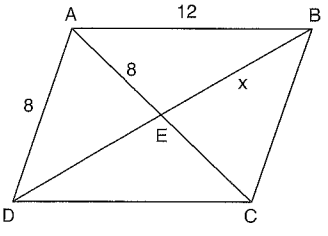
1.



ABCD paralelkenar
ABCD parallelogram
$\Rightarrow A(ABCD) = ?$

80

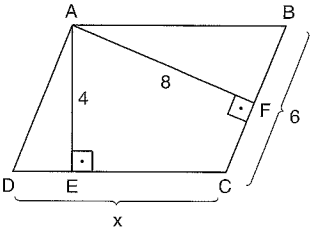
2.



ABCD paralelkenar
ABCD parallelogram
$\Rightarrow x = ?$

$2\sqrt{10}$

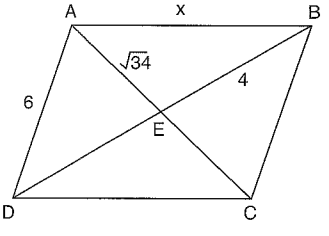
2.



ABCD paralelkenar
ABCD parallelogram
$\Rightarrow x = ?$

12

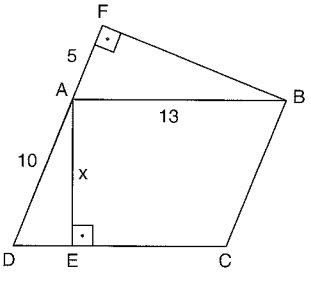
3.



ABCD paralelkenar
ABCD parallelogram
$\Rightarrow x = ?$

9

3.



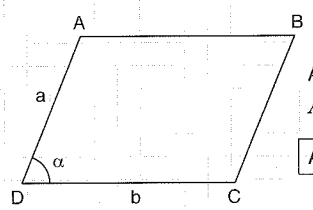
ABCD paralelkenar
ABCD parallelogram
$\Rightarrow x = ?$

$\frac{120}{13}$

PUZA YAYINLARI

www.ztcprep.com

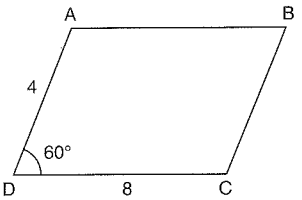
ÖZELLİK | Property 10



ABCD paralelkenar
ABCD parallelogram

$A(ABCD) = a \cdot b \cdot \sin\alpha$

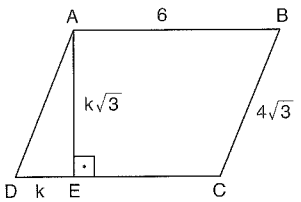
1.



ABCD paralelkenar
ABCD parallelogram
$\Rightarrow A(ABCD) = ?$

$16\sqrt{3}$

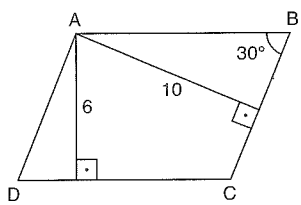
2.



ABCD paralelkenar
ABCD parallelogram
$\Rightarrow A(ABCD) = ?$

36

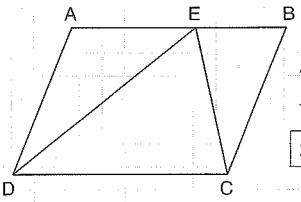
3.



ABCD paralelkenar
ABCD parallelogram
$\Rightarrow A(ABCD) = ?$

120

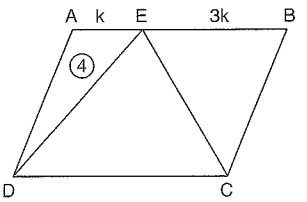
ÖZELLİK | Property 11



ABCD paralelkenar
ABCD parallelogram

$2 \cdot A(EDC) = A(ABCD)$

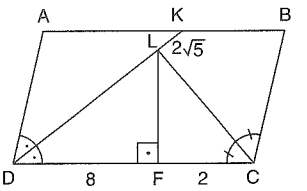
1.



ABCD paralelkenar
ABCD parallelogram
$\Rightarrow A(ABCD) = ?$

32

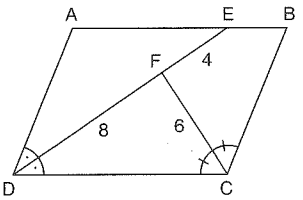
2.



ABCD paralelkenar
ABCD parallelogram
$\Rightarrow A(ABCD) = ?$

60

3.

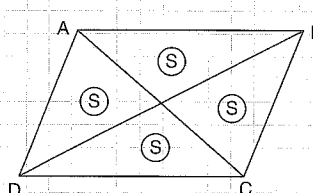


ABCD paralelkenar
ABCD parallelogram
$\Rightarrow A(ABCD) = ?$

72

PUZA YAYINLARI

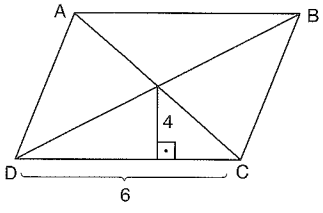
ÖZELLİK/Property 12



ABCD paralelkenar

ABCD parallelogram

1.



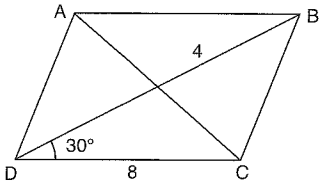
ABCD paralelkenar

ABCD parallelogram

⇒ A(ABCD) = ?

48

2.



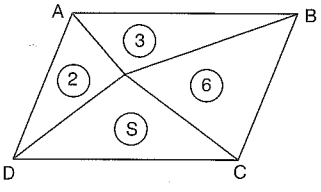
ABCD paralelkenar

ABCD parallelogram

⇒ A(ABCD) = ?

32

3.



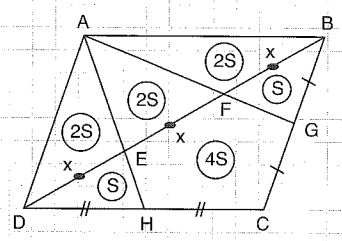
ABCD paralelkenar

ABCD parallelogram

⇒ S = ?

5

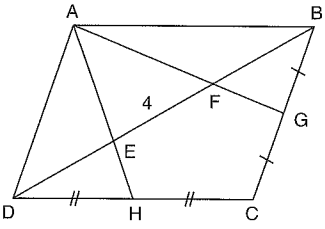
ÖZELLİK/Property 13



ABCD paralelkenar

ABCD parallelogram

1.



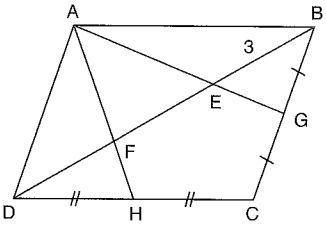
ABCD paralelkenar

ABCD parallelogram

⇒ |BD| = ?

12

2.



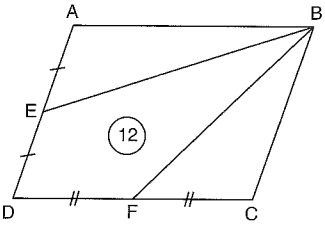
ABCD paralelkenar

ABCD parallelogram

⇒ |ED| = ?

6

3.



ABCD paralelkenar

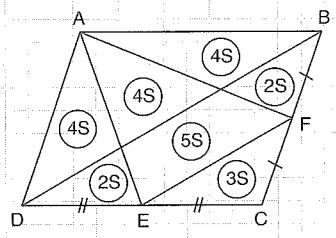
ABCD parallelogram

⇒ A(ABCD) = ?

24

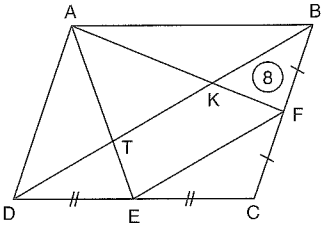
PUZA YAYINLARI

ÖZELLİK/Property 14



ABCD paralelkenar
ABCD parallelogram

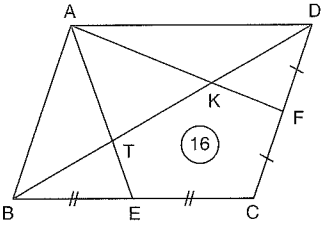
1.



ABCD paralelkenar
ABCD parallelogram
⇒ A(ABCD) = ?

96

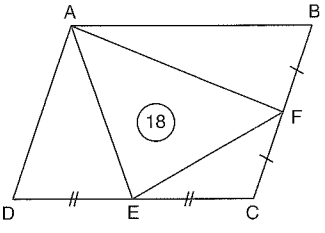
2.



ABCD paralelkenar
ABCD parallelogram
⇒ A(AKD) = ?

8

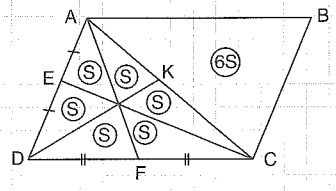
3.



ABCD paralelkenar
ABCD parallelogram
⇒ A(ABCD) = ?

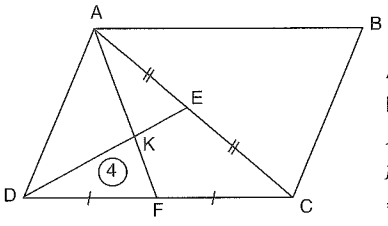
48

ÖZELLİK/Property 15



ABCD paralelkenar
ABCD paralelkenar
ABCD parallelogram

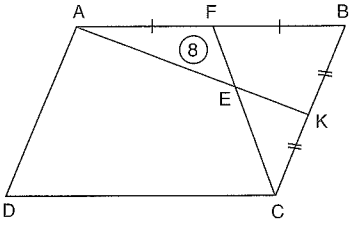
1.



ABCD paralelkenar
ABCD parallelogram
⇒ A(ABCD) = ?

48

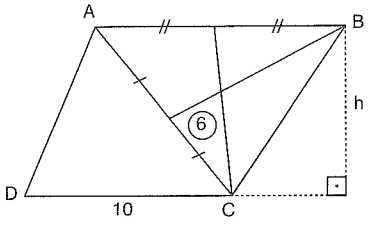
2.



ABCD paralelkenar
ABCD parallelogram
⇒ A(AECD) = ?

64

3.



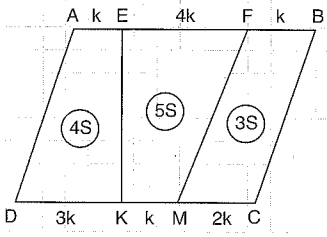
ABCD paralelkenar
ABCD parallelogram
|DC| = 10 br
⇒ h = ?

7,2

DİLİZA YAYINLARI

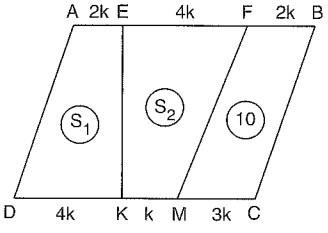
ÖZELLİK | Property 16

ABCD paralelkenar / *ABCD parallelogram*



$3k + k = 4k \Rightarrow 4S$ $\quad 4k + k = 5k \Rightarrow 5S$ $\quad k + 2k = 3k \Rightarrow 3S$

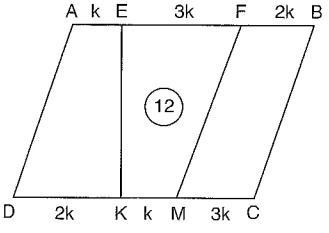
1.



ABCD paralelkenar
ABCD parallelogram
$\Rightarrow S_1 = ?$
$\Rightarrow S_2 = ?$

12, 10

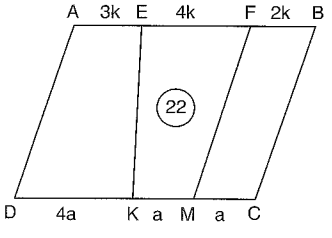
2.



ABCD paralelkenar
ABCD parallelogram
$\Rightarrow$ A(ABCD) = ?

36

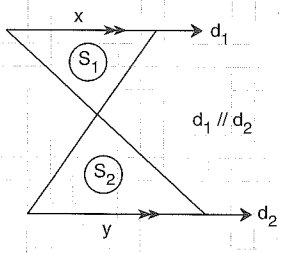
3.



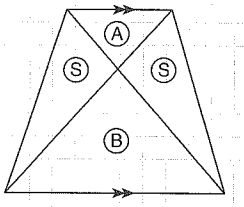
ABCD paralelkenar
ABCD parallelogram
$\Rightarrow$ A(ABCD) = ?

72

ÖZELLİK | Property 17

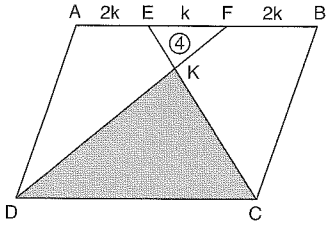


$\left(\frac{x}{y}\right)^2 = \frac{S_1}{S_2}$



$S \cdot S = A \cdot B$

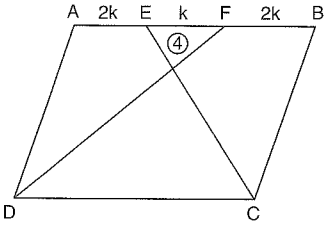
1.



ABCD paralelkenar
ABCD parallelogram
$\Rightarrow$ A(DKC) = ?

100

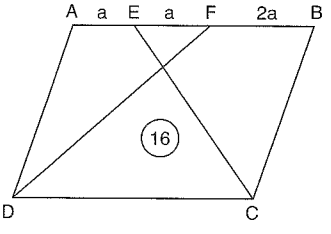
2.



ABCD paralelkenar
ABCD parallelogram
$\Rightarrow$ A(ABCD) = ?

240

3.



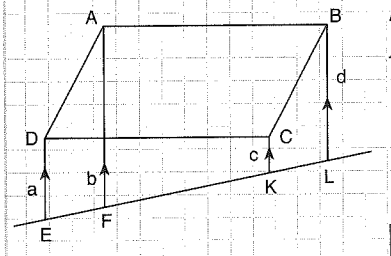
ABCD paralelkenar
ABCD parallelogram
$\Rightarrow$ A(ABCD) = ?

40

PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK|Property 18



ABCD paralelkenar

ABCD parallelogram

$|DE| = a$

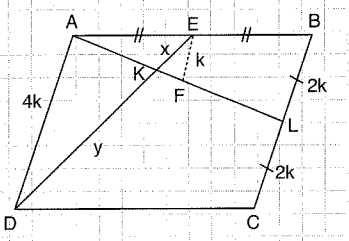
$|AF| = b$

$|CK| = c$

$|BL| = d$

$a + d = b + c$

ÖZELLİK|Property 19

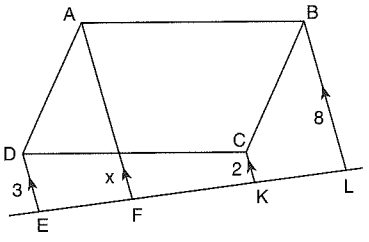


ABCD paralelkenar

ABCD parallelogram

$\frac{4k}{k} = \frac{y}{x}$

1.



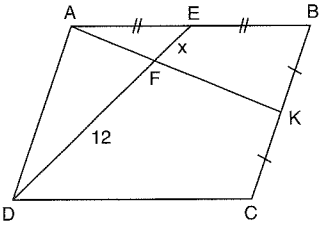
ABCD paralelkenar

ABCD parallelogram

$\Rightarrow |AF| = x = ?$

9

1.



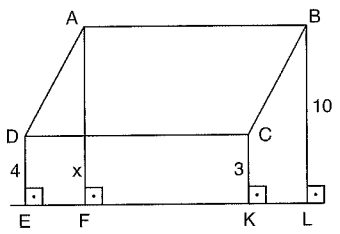
ABCD paralelkenar

ABCD parallelogram

$\Rightarrow |EF| = x = ?$

3

2.



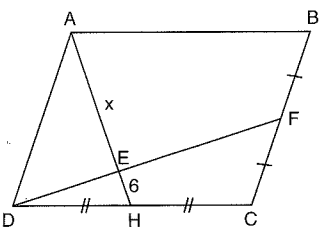
ABCD paralelkenar

ABCD parallelogram

$\Rightarrow |AF| = x = ?$

11

2.



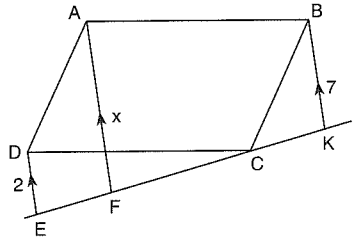
ABCD paralelkenar

ABCD parallelogram

$\Rightarrow |AE| = x = ?$

24

3.



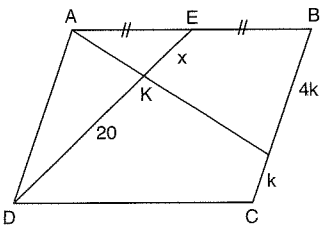
ABCD paralelkenar

ABCD parallelogram

$\Rightarrow |AF| = x = ?$

9

3.



ABCD paralelkenar

ABCD parallelogram

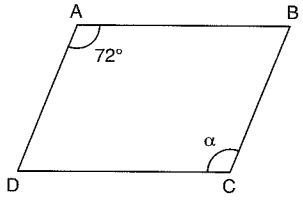
$\Rightarrow |EK| = x = ?$

8

PUZA YAYINLARI

www.ztcprep.com

1.



ABCD paralelkenar

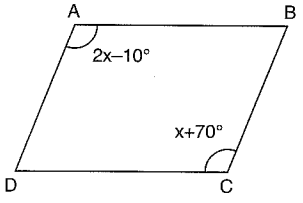
ABCD parallelogram

$m(\widehat{DAB}) = 72°$

$\Rightarrow m(\widehat{DCB}) = \alpha = ?$

A) 18 B) 36 C) 72 D) 108 E) 144

2.



ABCD paralelkenar

ABCD parallelogram

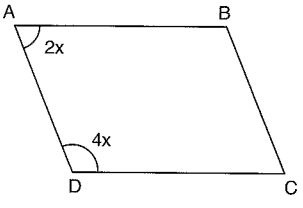
$m(\widehat{DAB}) = 2x - 10°$

$m(\widehat{DCB}) = x + 70°$

$\Rightarrow m(\widehat{DAB}) = ?$

A) 10 B) 30 C) 80 D) 100 E) 150

3.



ABCD paralelkenar

ABCD parallelogram

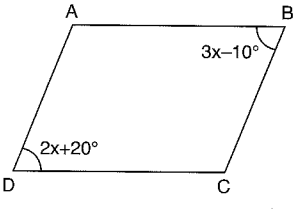
$m(\widehat{DAB}) = 2x$

$m(\widehat{ADC}) = 4x$

$\Rightarrow m(\widehat{DAB}) = ?$

A) 30 B) 60 C) 90 D) 120 E) 150

4.



ABCD paralelkenar

ABCD parallelogram

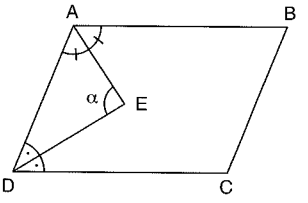
$m(\widehat{ADC}) = 2x + 20°$

$m(\widehat{ABC}) = 3x - 10°$

$\Rightarrow m(\widehat{DAB}) = ?$

A) 6 B) 30 C) 80 D) 100 E) 148

5.



ABCD paralelkenar

ABCD parallelogram

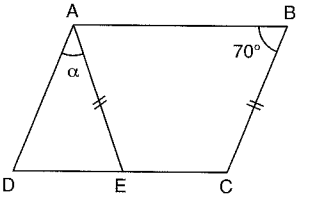
$m(\widehat{DAE}) = m(\widehat{EAB})$

$m(\widehat{ADE}) = m(\widehat{EDC})$

$\Rightarrow m(\widehat{AED}) = \alpha = ?$

A) 30 B) 45 C) 60 D) 90 E) 120

6.



ABCD paralelkenar

ABCD parallelogram

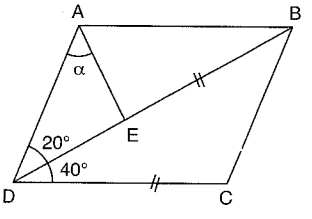
$|AE| = |BC|$

$m(\widehat{ABC}) = 70°$

$\Rightarrow m(\widehat{DAE}) = \alpha = ?$

A) 40 B) 70 C) 90 D) 110 E) 140

7.



ABCD paralelkenar

ABCD parallelogram

$|BE| = |DC|$

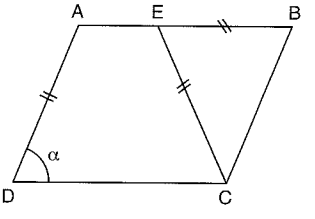
$m(\widehat{ADB}) = 20°$

$m(\widehat{BDC}) = 40°$

$\Rightarrow m(\widehat{DAE}) = \alpha = ?$

A) 20 B) 40 C) 50 D) 70 E) 120

8.



ABCD paralelkenar

ABCD parallelogram

$|AD| = |EC| = |EB|$

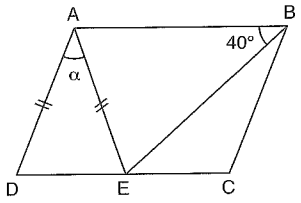
$\Rightarrow m(\widehat{ADC}) = \alpha = ?$

A) 120 B) 90 C) 75 D) 60 E) 30

PUZA YAYINLARI

www.ztcprep.com

9.



ABCD paralelkenar

ABCD parallelogram

$|AD| = |AE|$

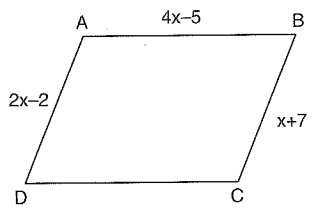
$|BE| = |DC|$

$m(\widehat{ABE}) = 40°$

$\Rightarrow m(\widehat{DAE}) = \alpha = ?$

A) 20 B) 40 C) 70 D) 100 E) 110

10.



ABCD paralelkenar

ABCD parallelogram

$|AB| = 4x - 5$

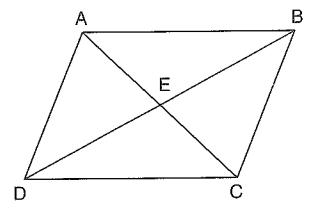
$|AD| = 2x - 2$

$|BC| = x + 7$

$\Rightarrow |DC| = ?$

A) 9 B) 16 C) 31 D) 36 E) 41

11.



ABCD paralelkenar

ABCD parallelogram

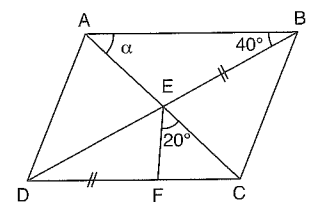
$|BE| = x + 5$

$|DE| = 2x - 1$

$\Rightarrow |BD| = ?$

A) 2 B) 6 C) 7 D) 11 E) 22

12.



ABCD paralelkenar

ABCD parallelogram

$m(\widehat{FEC}) = 20°$

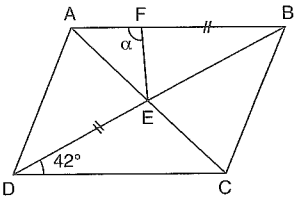
$m(\widehat{ABD}) = 40°$

$|DF| = |BE|$

$\Rightarrow m(\widehat{CAB}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 50 E) 70

13.



ABCD paralelkenar

ABCD parallelogram

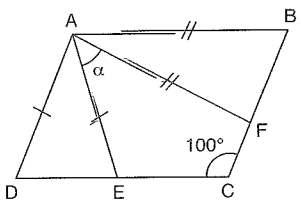
$m(\widehat{BDC}) = 42°$

$|DE| = |BF|$

$\Rightarrow m(\widehat{AFE}) = \alpha = ?$

A) 122 B) 111 C) 84 D) 68 E) 42

14.



ABCD paralelkenar

ABCD parallelogram

$m(\widehat{DCB}) = 100°$

$m(\widehat{EAF}) = \alpha$

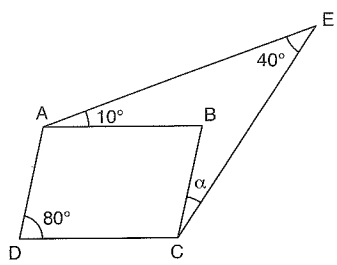
$|AD| = |AE|$

$|AF| = |AB|$

$\Rightarrow m(\widehat{EAF}) = \alpha = ?$

A) 80 B) 60 C) 50 D) 40 E) 20

15.



ABCD paralelkenar

ABCD parallelogram

$m(\widehat{AEC}) = 40°$

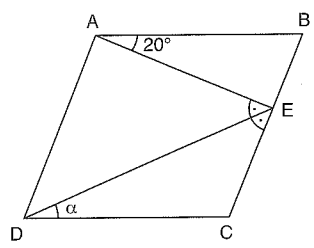
$m(\widehat{EAB}) = 10°$

$m(\widehat{ADC}) = 80°$

$\Rightarrow m(\widehat{BCE}) = \alpha = ?$

A) 70 B) 60 C) 50 D) 40 E) 30

16.



ABCD paralelkenar

ABCD parallelogram

$m(\widehat{BAE}) = 20°$

$m(\widehat{AED}) = m(\widehat{DEC})$

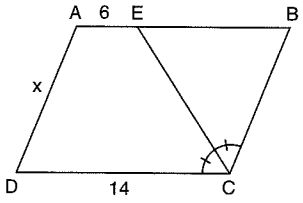
$|AE| = |DC|$

$\Rightarrow m(\widehat{EDC}) = \alpha = ?$

A) 30 B) 40 C) 50 D) 60 E) 70

PUZA YAYINLARI

1.



ABCD paralelkenar

ABCD parallelogram

$m(\widehat{DCE}) = m(\widehat{ECB})$

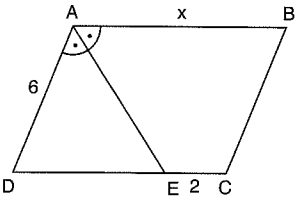
$|DC| = 14$ br

$|AE| = 6$ br

$\Rightarrow |AD| = x = ?$

A) 4 B) 6 C) 7 D) 8 E) 10

2.



ABCD paralelkenar

ABCD parallelogram

$m(\widehat{DAE}) = m(\widehat{EAB})$

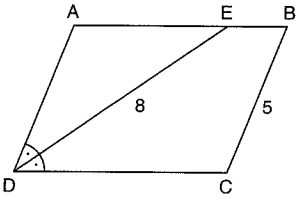
$|AD| = 6$ br

$|EC| = 2$ br

$\Rightarrow |AB| = x = ?$

A) 16 B) 14 C) 12 D) 10 E) 8

3.



ABCD paralelkenar

ABCD parallelogram

$m(\widehat{ADE}) = m(\widehat{EDC})$

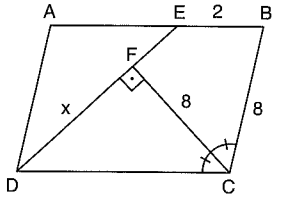
$|DE| = 8$ br

$|BC| = 5$ br

$\Rightarrow$ Ç(ADE) = ?

A) 5 B) 10 C) 12 D) 16 E) 18

4.



ABCD paralelkenar

ABCD parallelogram

$[CF] \perp [DE]$

$m(\widehat{DCF}) = m(\widehat{FCB})$

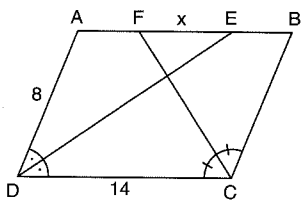
$|FC| = |BC| = 8$ br

$|EB| = 2$ br

$\Rightarrow |DF| = x = ?$

A) 4 B) 5 C) 6 D) 8 E) 10

5.



ABCD paralelkenar

ABCD parallelogram

$m(\widehat{DCF}) = m(\widehat{FCB})$

$m(\widehat{ADE}) = m(\widehat{EDC})$

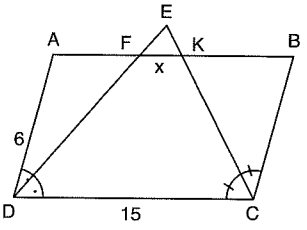
$|AD| = 8$ br

$|DC| = 14$ br

$\Rightarrow |FE| = x = ?$

A) 2 B) 3 C) 4 D) 6 E) 8

6.



ABCD paralelkenar

ABCD parallelogram

$m(\widehat{DCE}) = m(\widehat{ECB})$

$m(\widehat{EDC}) = m(\widehat{ADE})$

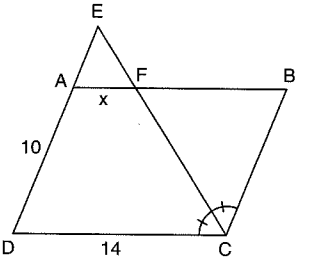
$|AD| = 6$ br

$|DC| = 15$ br

$\Rightarrow |FK| = x = ?$

A) 3 B) 6 C) 9 D) 10 E) 12

7.



ABCD paralelkenar

ABCD parallelogram

$m(\widehat{DCE}) = m(\widehat{ECB})$

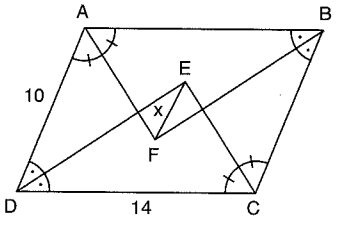
$|AD| = 10$ br

$|DC| = 14$ br

$\Rightarrow |AF| = x = ?$

A) 2 B) 4 C) 6 D) 8 E) 10

8.



ABCD paralelkenar

ABCD parallelogram

$m(\widehat{ADE}) = m(\widehat{EDC})$

$m(\widehat{DCE}) = m(\widehat{ECB})$

$m(\widehat{CBF}) = m(\widehat{FBA})$

$m(\widehat{BAF}) = m(\widehat{FAD})$

$|AD| = 10$ br

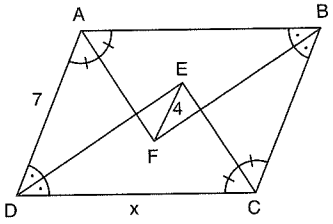
$|DC| = 14$ br

$\Rightarrow |EF| = x = ?$

A) 2 B) 4 C) 6 D) 8 E) 10

PUZA YAYINLARI

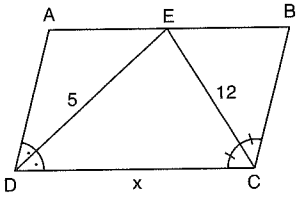
9.



ABCD paralelkenar
ABCD parallelogram
$m(\widehat{DAF}) = m(\widehat{FAB})$
$m(\widehat{ADE}) = m(\widehat{EDC})$
$m(\widehat{DCE}) = m(\widehat{ECB})$
$m(\widehat{CBF}) = m(\widehat{FBA})$
$|AD| = 7$ br
$|EF| = 4$ br
$\Rightarrow |DC| = x = ?$

A) 3 B) 8 C) 10 D) 11 E) 14

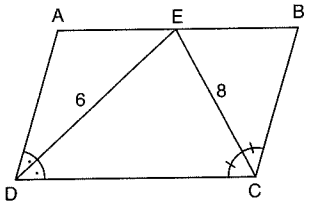
10.



ABCD paralelkenar
ABCD parallelogram
[DE] ve [EC] açıortay
[DE] and [EC] bisector
$|DE| = 5$ br
$|EC| = 12$ br
$\Rightarrow |DC| = x = ?$

A) 5 B) 10 C) 12 D) 13 E) 17

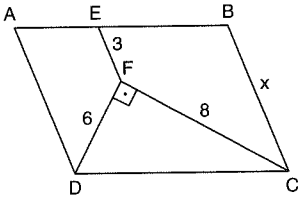
11.



ABCD paralelkenar
ABCD parallelogram
[DE] ve [EC] açıortay
[DE] and [EC] bisector
$|DE| = 6$ br
$|CE| = 8$ br
$\Rightarrow$ Çevre(ABCD) = ?

A) 10 B) 20 C) 30 D) 40 E) 50

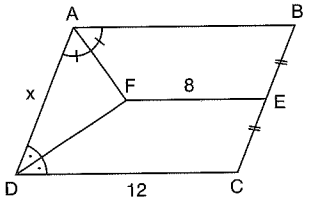
12.



ABCD paralelkenar
ABCD parallelogram
[AD] // [EF] // [BC]
[DF] ⊥ [FC]
$|DF| = 6$ br
$|FC| = 8$ br
$|EF| = 3$ br
$\Rightarrow |BC| = x = ?$

A) 5 B) 6 C) 8 D) 10 E) 13

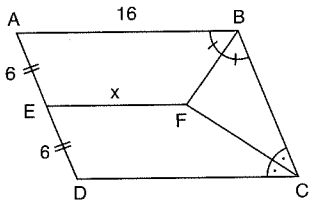
13.



ABCD paralelkenar
ABCD parallelogram
[AF] ve [DF] açıortay
[AF] and [DF] bisector
$|FE| = 8$ br
$|DC| = 12$ br
$|BE| = |EC|$
$\Rightarrow |AD| = x = ?$

A) 2 B) 4 C) 6 D) 8 E) 12

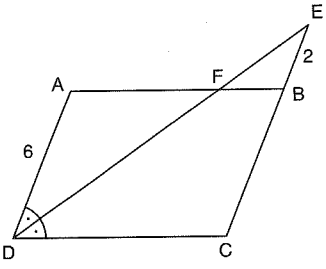
14.



ABCD paralelkenar
ABCD parallelogram
[BF] ve [FC] açıortay
[BF] and [FC] bisector
$|AB| = 16$ br
$|AE| = |ED| = 6$
$\Rightarrow |EF| = x = ?$

A) 3 B) 6 C) 8 D) 10 E) 11

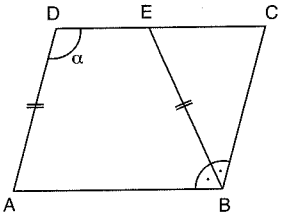
15.



ABCD paralelkenar
ABCD parallelogram
[DE] açıortay
[DE] bisector
$|AD| = 6$ br
$|EB| = 2$ br
$\Rightarrow |DC| = ?$

A) 6 B) 8 C) 10 D) 12 E) 14

16.

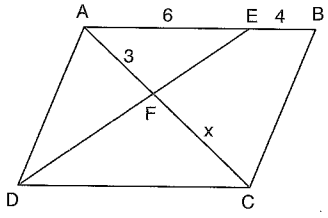


ABCD paralelkenar
ABCD parallelogram
$m(\widehat{ABE}) = m(\widehat{EBC})$
$|AD| = |EB|$
$\Rightarrow m(\widehat{ADC}) = \alpha = ?$

A) 100 B) 105 C) 110 D) 120 E) 135

PUZA YAYINLARI

1.



ABCD paralelkenar

ABCD parallelogram

$|AE| = 6$ br

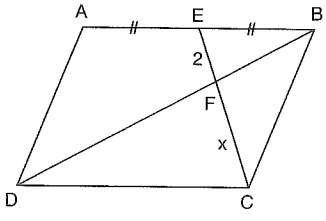
$|EB| = 4$ br

$|AF| = 3$ br

$\Rightarrow |FC| = x = ?$

A) 2 B) 4 C) 5 D) 10 E) 20

2.



ABCD paralelkenar

ABCD parallelogram

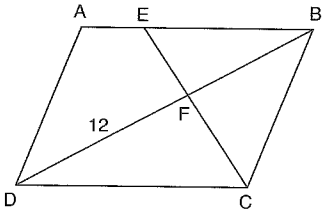
$|EF| = 2$ br

$|AE| = |EB|$

$\Rightarrow |FC| = x = ?$

A) 16 B) 8 C) 4 D) 2 E) 1

3.



ABCD paralelkenar

ABCD parallelogram

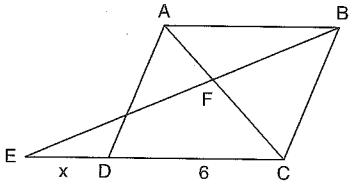
$|DF| = 12$ br

$|EB| = 3 \cdot |AE|$

$\Rightarrow |BD| = ?$

A) 9 B) 18 C) 21 D) 36 E) 48

4.



ABCD paralelkenar

ABCD parallelogram

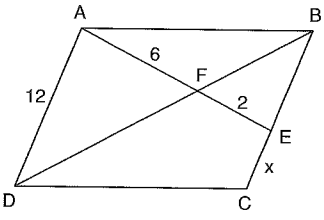
$2|FC| = 3|AF|$

$|DC| = 6$ br

$\Rightarrow |ED| = x = ?$

A) 1 B) 3 C) 6 D) 9 E) 12

5.



ABCD paralelkenar

ABCD parallelogram

$|AD| = 12$ br

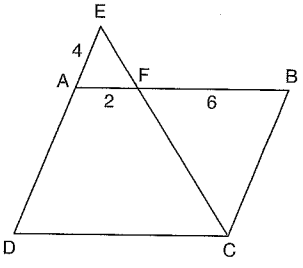
$|AF| = 6$ br

$|FE| = 2$ br

$\Rightarrow |EC| = x = ?$

A) 4 B) 6 C) 7 D) 8 E) 10

6.



ABCD paralelkenar

ABCD parallelogram

$|AE| = 4$ br

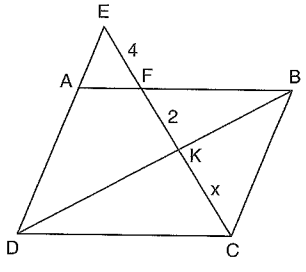
$|AF| = 2$ br

$|FB| = 6$ br

$\Rightarrow$ Ç(ABCD) = ?

A) 42 B) 40 C) 36 D) 30 E) 20

7.



ABCD paralelkenar

ABCD parallelogram

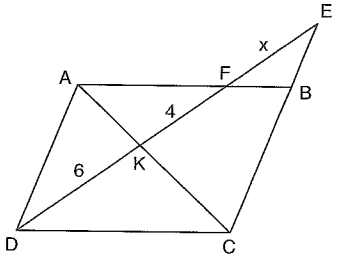
$|EF| = 4$ br

$|FK| = 2$ br

$\Rightarrow |KC| = x = ?$

A) $2\sqrt{3}$ B) 6 C) $4\sqrt{3}$ D) 12 E) $12\sqrt{3}$

8.



ABCD paralelkenar

ABCD parallelogram

$|DK| = 6$ br

$|KF| = 4$ br

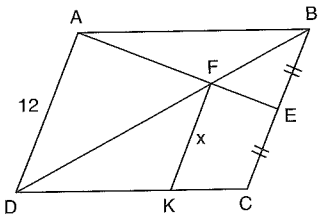
$\Rightarrow |FE| = x = ?$

A) 5 B) 4 C) 3 D) 2 E) 1

PUZA YAYINLARI

www.ztcprep.com

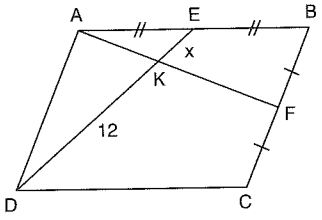
9.



ABCD paralelkenar
ABCD parallelogram
[AD] // [FK]
|BE| = |EC|
|AD| = 12 br
⇒ |FK| = x = ?

A) 6 B) 7 C) 8 D) 9 E) 10

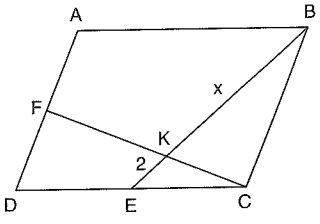
10.



ABCD paralelkenar
ABCD parallelogram
|DK| = 12 br
|AE| = |EB|
|BF| = |FC|
⇒ |KE| = x = ?

A) 2 B) 3 C) 4 D) 5 E) 6

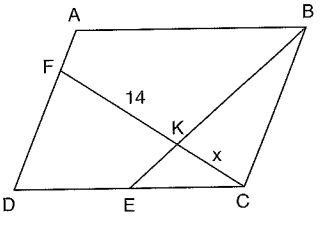
11.



ABCD paralelkenar
ABCD parallelogram
|AF| = |FD|
|DE| = |EC|
|KE| = 2 br
⇒ |BK| = x = ?

A) $\frac{5}{2}$ B) 4 C) $\frac{15}{2}$ D) 8 E) $\frac{25}{3}$

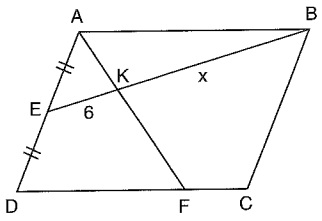
12.



ABCD paralelkenar
ABCD parallelogram
3|AF| = |DF|
|FK| = 14 br
|DE| = |EC|
⇒ |KC| = x = ?

A) $\frac{3}{2}$ B) 6 C) 8 D) $\frac{32}{3}$ E) 12

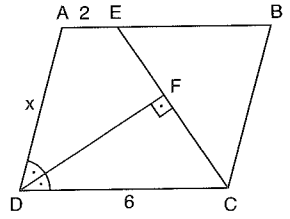
13.



ABCD paralelkenar
ABCD parallelogram
|AE| = |ED|
3|FC| = |DF|
|EK| = 6 br
⇒ |KB| = x = ?

A) 6 B) $\frac{20}{3}$ C) 16 D) $\frac{33}{2}$ E) 24

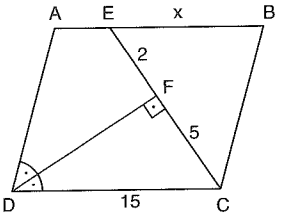
14.



ABCD paralelkenar
ABCD parallelogram
|AE| = 2 br
|DC| = 6 br
[DF] ⊥ [EC]
[DF] açıortay
[DF] bisector
⇒ |AD| = x = ?

A) 10 B) 8 C) 6 D) 4 E) 2

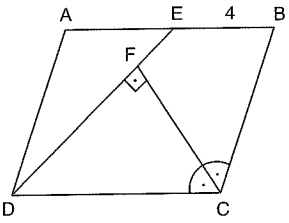
15.



ABCD paralelkenar
ABCD parallelogram
|EF| = 2 br
|FC| = 5 br
|DC| = 15 br
[DF] ⊥ [EC]
[DF] açıortay
[DF] bisector
⇒ |EB| = x = ?

A) $\frac{3}{2}$ B) $\frac{9}{2}$ C) $\frac{21}{2}$ D) 12 E) 14

16.



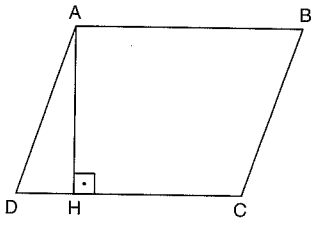
ABCD paralelkenar
ABCD parallelogram
|EB| = 4 br
2|FE| = |DF|
[FC] ⊥ [DE]
[FC] açıortay
[FC] bisector
⇒ |DC| = ?

A) 16 B) 12 C) 10 D) 8 E) 6

PUZA YAYINLARI

www.ztcprep.com

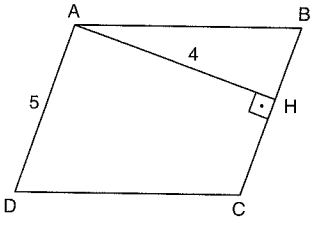
1.



ABCD paralelkenar
ABCD parallelogram
$[AH] \perp [DC]$
$|AH| = 6$ br
$|DC| = 10$ br
$\Rightarrow A(ABCD) = ?$

A) 120 B) 60 C) 30 D) 15 E) 10

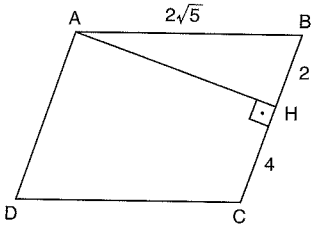
2.



ABCD paralelkenar
ABCD parallelogram
$[AH] \perp [BC]$
$|AH| = 4$ br
$|AD| = 5$ br
$\Rightarrow A(ABCD) = ?$

A) 5 B) 10 C) 20 D) 40 E) 80

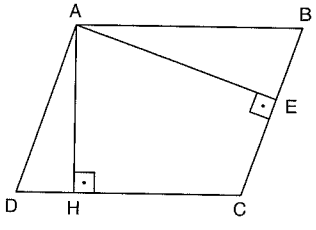
3.



ABCD paralelkenar
ABCD parallelogram
$[AH] \perp [BC]$
$|AB| = 2\sqrt{5}$ br
$|BH| = 2$ br
$|HC| = 4$ br
$\Rightarrow A(ABCD) = ?$

A) 6 B) $6\sqrt{5}$ C) 12 D) 24 E) $12\sqrt{5}$

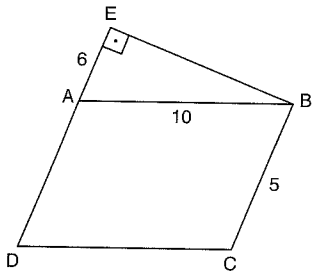
4.



ABCD paralelkenar
ABCD parallelogram
$[AE] \perp [BC]$
$[AH] \perp [DC]$
$|AE| = 6$ br
$|AH| = 4$ br
$|DC| = 8$ br
$\Rightarrow |BC| = x = ?$

A) 24 B) 12 C) $\frac{16}{3}$ D) 3 E) $\frac{8}{3}$

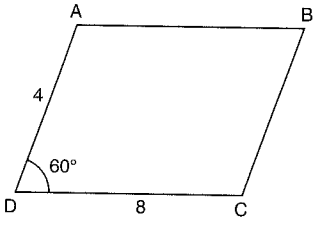
5.



ABCD paralelkenar
ABCD parallelogram
$[BE] \perp [DE]$
$|AE| = 6$ br
$|AB| = 10$ br
$|BC| = 5$ br
$\Rightarrow A(ABCD) = ?$

A) 50 B) 40 C) 30 D) 25 E) 20

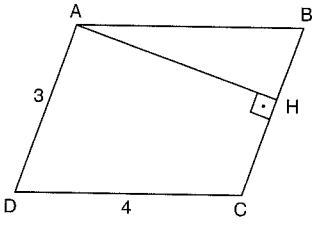
6.



ABCD paralelkenar
ABCD parallelogram
$|AD| = 4$ br
$|DC| = 8$ br
$m(\widehat{ADC}) = 60°$
$\Rightarrow A(ABCD) = ?$

A) $8\sqrt{3}$ B) $16\sqrt{3}$ C) $24\sqrt{3}$ D) $26\sqrt{3}$ E) $32\sqrt{3}$

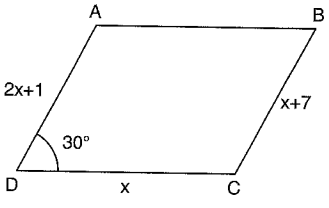
7.



ABCD paralelkenar
ABCD parallelogram
$[AH] \perp [BC]$
$|AD| = 3$ br
$|DC| = 4$ br
$|AB| = 2|BH|$
$\Rightarrow A(ABCD) = ?$

A) $12\sqrt{3}$ B) $6\sqrt{3}$ C) 6 D) $3\sqrt{3}$ E) 3

8.

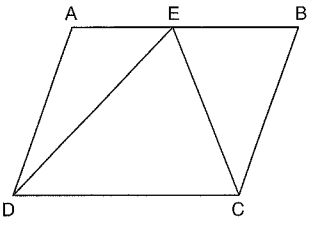


ABCD paralelkenar
ABCD parallelogram
$|AD| = (2x + 1)$ br
$|BC| = (x + 7)$ br
$|DC| = x$
$m(\widehat{ADC}) = 30°$
$\Rightarrow A(ABCD) = ?$

A) 18 B) 26 C) $26\sqrt{3}$ D) 39 E) $39\sqrt{3}$

PUZA YAYINLARI

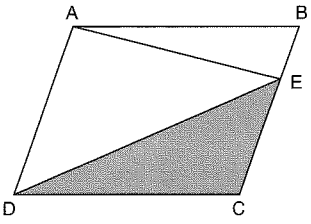
9.



ABCD paralelkenar
ABCD parallelogram
$A(EDC) = 40\,br^2$
$\Rightarrow A(ABCD) = ?$

A) 20 B) 40 C) 60 D) 70 E) 80

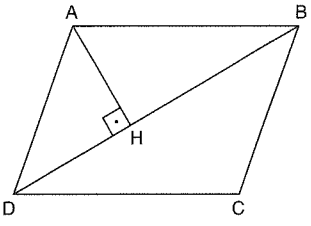
10.



ABCD paralelkenar
ABCD parallelogram
$A(ABE) = 20\,br^2$
$A(AED) = 30\,br^2$
$\Rightarrow A(EDC) = ?$

A) 5 B) 10 C) 20 D) 30 E) 50

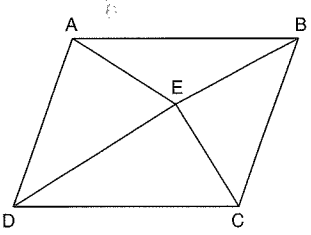
11.



ABCD paralelkenar
ABCD parallelogram
$[AH] \perp [DB]$
$|AH| = 4$ br
$|DB| = 8$ br
$\Rightarrow A(ABCD) = ?$

A) 64 B) 48 C) 32 D) 24 E) 18

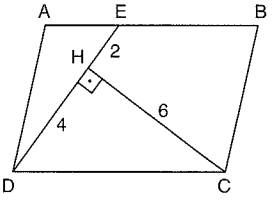
12.



ABCD paralelkenar
ABCD parallelogram
$A(ABE) = 4\,br^2$
$A(EDC) = 12\,br^2$
$\Rightarrow A(ABCD) = ?$

A) 16 B) 24 C) 32 D) 48 E) 60

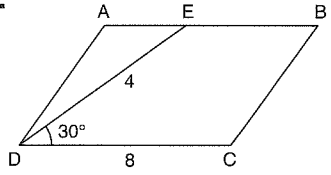
13.



ABCD paralelkenar
ABCD parallelogram
$[CH] \perp [DE]$
$|DH| = 4$ br
$|HE| = 2$ br
$|CH| = 6$ br
$\Rightarrow A(ABCD) = ?$

A) 12 B) 18 C) 24 D) 32 E) 36

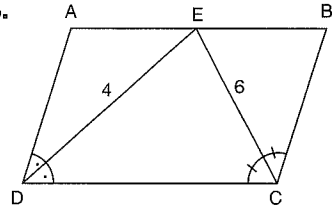
14.



ABCD paralelkenar
ABCD parallelogram
$m(\widehat{EDC}) = 30°$
$|DE| = 4$ br
$|DC| = 8$ br
$\Rightarrow A(ABCD) = ?$

A) 16 B) $8\sqrt{3}$ C) $4\sqrt{3}$ D) 8 E) 4

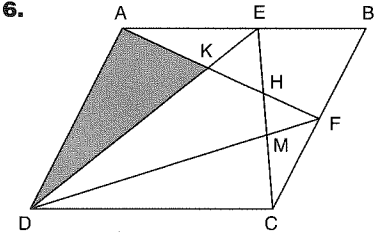
15.



ABCD paralelkenar
ABCD parallelogram
$|DE| = 4$ br
$|EC| = 6$ br
[DE] ve [EC] açıortay
[DE] and [EC] bisector
$\Rightarrow A(ABCD) = ?$

A) 6 B) 10 C) 12 D) 18 E) 24

16.



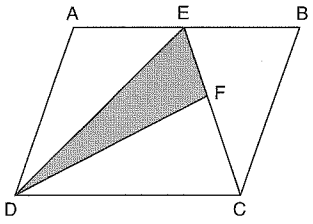
ABCD paralelkenar
ABCD parallelogram
$A(EKH) = 4\,br^2$
$A(HFM) = 3\,br^2$
$A(DMC) = 8\,br^2$
$\Rightarrow A(AKD) = ?$

A) 9 B) 8 C) 7 D) 6 E) 5

PUZA YAYINLARI

www.ztcprep.com

1.



ABCD paralelkenar

ABCD parallelogram

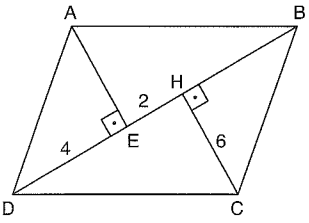
$|FC| = 2|EF|$

$A(DEF) = 6\,br^2$

$\Rightarrow A(ABCD) = ?$

A) 12 B) 18 C) 24 D) 36 E) 48

2.



ABCD paralelkenar

ABCD parallelogram

$[AE] \perp [DB]$

$[CH] \perp [DB]$

$|EH| = 2$ br

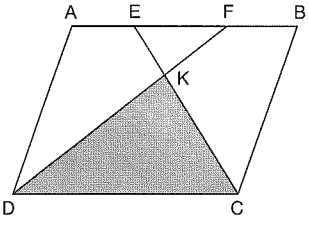
$|DE| = 4$ br

$|CH| = 6$ br

$\Rightarrow A(ABCD) = ?$

A) 78 B) 60 C) 54 D) 48 E) 39

3.



ABCD paralelkenar

ABCD parallelogram

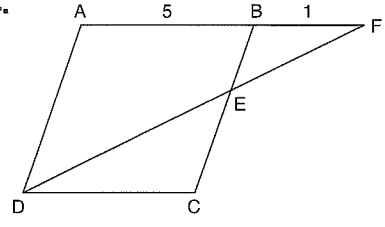
$|AE| = |EF| = |FB|$

$A(EFK) = 4\,br^2$

$\Rightarrow A(DKC) = ?$

A) 48 B) 36 C) 24 D) 12 E) 8

4.



ABCD paralelkenar

ABCD parallelogram

$|AB| = 5$ br

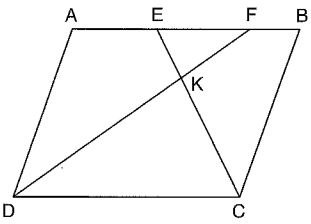
$|BF| = 1$ br

$A(BEF) = 2\,br^2$

$\Rightarrow A(ABCD) = ?$

A) 50 B) 60 C) 80 D) 100 E) 120

5.



ABCD paralelkenar

ABCD parallelogram

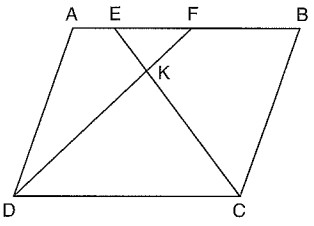
$|AE| = 2|EF| = 2|FB|$

$A(EFK) = 4\,br^2$

$\Rightarrow A(ABCD) = ?$

A) 48 B) 60 C) 80 D) 120 E) 160

6.



ABCD paralelkenar

ABCD parallelogram

$|EF| = 2|AE|$

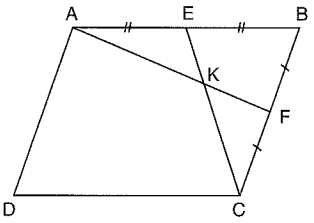
$|FB| = 3|AE|$

$A(DKC) = 72\,br^2$

$\Rightarrow A(ABCD) = ?$

A) 16 B) 100 C) 144 D) 192 E) 200

7.



ABCD paralelkenar

ABCD parallelogram

$|AE| = |EB|$

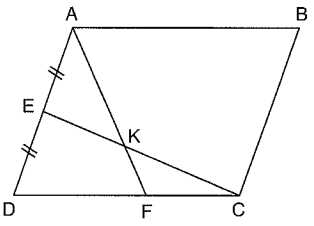
$|FB| = |FC|$

$A(AEK) = 5\,br^2$

$\Rightarrow A(ABCD) = ?$

A) 60 B) 50 C) 45 D) 30 E) 25

8.



ABCD paralelkenar

ABCD parallelogram

$|AE| = |ED|$

$|DF| = 2|FC|$

$A(FCK) = 6\,br^2$

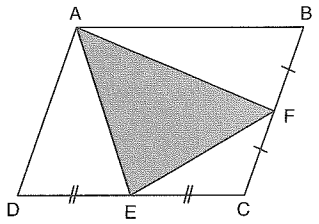
$\Rightarrow A(ABCD) = ?$

A) 96 B) 108 C) 144 D) 180 E) 190

PUZA YAYINLARI

www.ztcprep.com

9.



ABCD paralelkenar

ABCD parallelogram

$|DE| = |EC|$

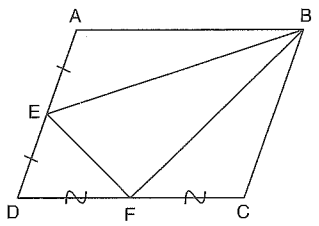
$|BF| = |FC|$

$A(AEF) = 9\,br^2$

$\Rightarrow A(ABCD) = ?$

A) 12 B) 18 C) 24 D) 36 E) 48

10.



ABCD paralelkenar

ABCD parallelogram

$|AE| = |ED|$

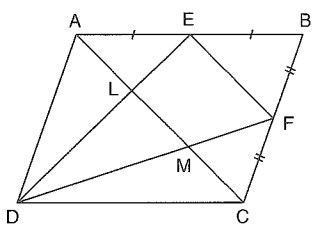
$|DF| = |FC|$

$A(DEF) = 15\,br^2$

$\Rightarrow A(ABCD) = ?$

A) 180 B) 150 C) 120 D) 110 E) 100

11.



ABCD paralelkenar

ABCD parallelogram

$|AE| = |EB|$

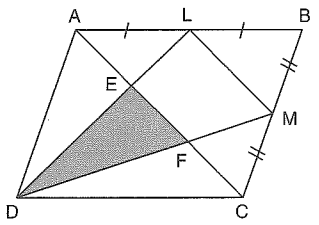
$|BF| = |FC|$

$A(EFML) = 10\,br^2$

$\Rightarrow A(ABCD) = ?$

A) 24 B) 48 C) 50 D) 60 E) 100

12.



ABCD paralelkenar

ABCD parallelogram

$|AL| = |LB|$

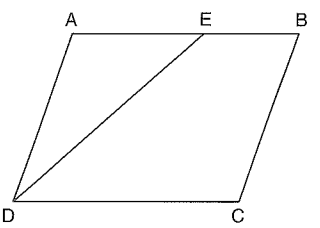
$|BM| = |MC|$

$A(FMC) = 4\,br^2$

$\Rightarrow A(EFD) = ?$

A) 8 B) 12 C) 16 D) 24 E) 48

13.



ABCD paralelkenar

ABCD parallelogram

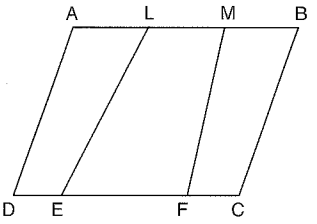
$2|AE| = 3|EB|$

$A(ABCD) = 50\,br^2$

$\Rightarrow A(AED) = ?$

A) 10 B) 15 C) 20 D) 30 E) 45

14.



ABCD paralelkenar

ABCD parallelogram

$|AL| = |LM| = |MB|$

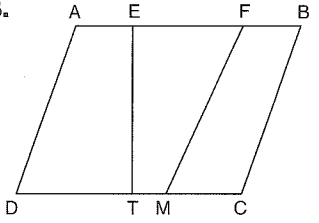
$|EF| = 2|DE| = 2|FC|$

$A(EFML) = 20\,br^2$

$\Rightarrow A(ABCD) = ?$

A) 30 B) 40 C) 48 D) 60 E) 96

15.



ABCD paralelkenar

ABCD parallelogram

$|EF| = 2|AE| = 2|FB|$

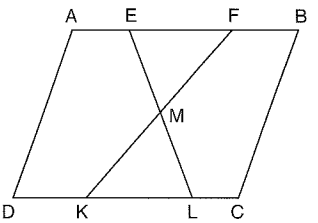
$2|DT| = 6|TM| = 2|MC|$

$A(ABCD) = 56\,br^2$

$\Rightarrow A(EFMT) = ?$

A) 12 B) 16 C) 18 D) 20 E) 24

16.



ABCD paralelkenar

ABCD parallelogram

$2|EF| = |AB|$

$3|KL| = |DC|$

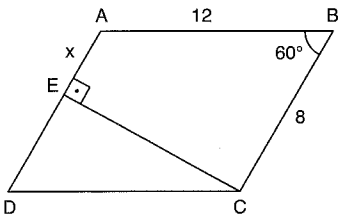
$A(EFM) = 9\,br^2$

$\Rightarrow A(ABCD) = ?$

A) 30 B) 48 C) 50 D) 54 E) 60

PUZA YAYINLARI

1.



ABCD paralelkenar

ABCD parallelogram

$[CE] \perp [AD]$

$m(\widehat{ABC}) = 60°$

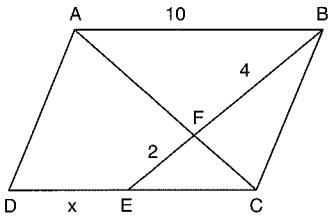
$|AB| = 12$ br

$|BC| = 8$ br

$\Rightarrow |EA| = x = ?$

A) 2 B) 3 C) 4 D) 5 E) 6

2.



ABCD paralelkenar

ABCD parallelogram

$|AB| = 10$ br

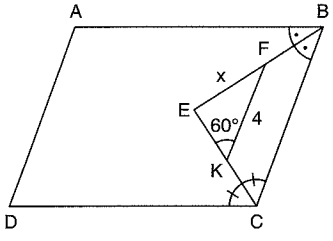
$|BF| = 4$ br

$|FE| = 2$ br

$\Rightarrow |DE| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

3.



ABCD paralelkenar

ABCD parallelogram

$m(\widehat{ABE}) = m(\widehat{EBC})$

$m(\widehat{ECB}) = m(\widehat{ECD})$

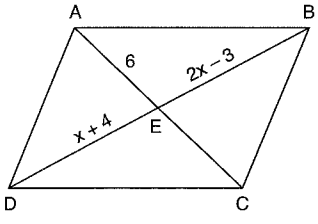
$m(\widehat{FKE}) = 60°$

$|KF| = 4$ br

$\Rightarrow |EF| = x = ?$

A) 2 B) $2\sqrt{3}$ C) 4 D) $4\sqrt{3}$ E) 8

4.



ABCD paralelkenar

ABCD parallelogram

$|AE| = 6$ br

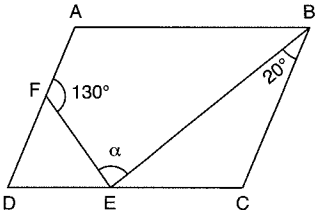
$|EB| = 2x - 3$

$|KF| = x + 4$

$\Rightarrow |AC| + |BD| = ?$

A) 10 B) 13 C) 17 D) 26 E) 34

5.



ABCD paralelkenar

ABCD parallelogram

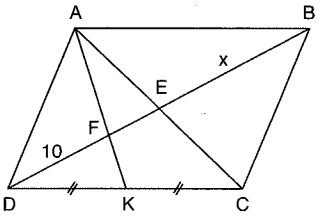
$m(\widehat{AFE}) = 130°$

$m(\widehat{EBC}) = 20°$

$\Rightarrow m(\widehat{FEB}) = \alpha = ?$

A) 70 B) 65 C) 60 D) 50 E) 45

6.



ABCD paralelkenar

ABCD parallelogram

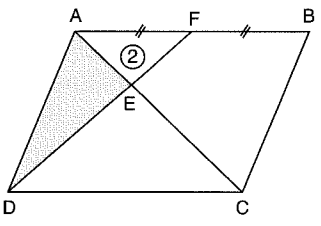
$|DK| = |KC|$

$|DF| = 10$ br

$\Rightarrow |EB| = x = ?$

A) 20 B) 18 C) 15 D) 12 E) 10

7.



ABCD paralelkenar

ABCD parallelogram

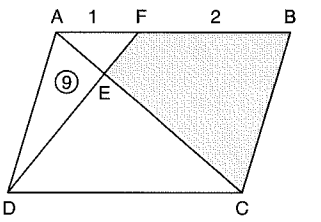
$|AF| = |FB|$

$A(AEF) = 2$ br^2

$\Rightarrow A(AED) = ?$

A) 2 B) 4 C) 6 D) 8 E) 12

8.



ABCD paralelkenar

ABCD parallelogram

$|AF| = 1$ br

$|FB| = 2$ br

$A(AED) = 9$ br^2

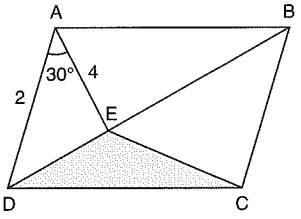
$\Rightarrow A(FBCE) = ?$

A) 12 B) 24 C) 33 D) 36 E) 48

PUZA YAYINLARI

www.ztcprep.com

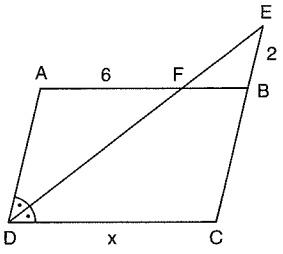
9.



ABCD paralelkenar
ABCD parallelogram
$|AD| = 2$ br
$|AE| = 4$ br
$m(\widehat{DAE}) = 30°$
$\Rightarrow A(EDC) = ?$

A) 1 B) 2 C) $2\sqrt{3}$ D) 4 E) $4\sqrt{3}$

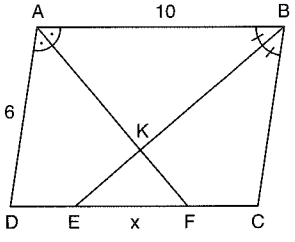
10.



ABCD paralelkenar
ABCD parallelogram
$m(\widehat{ADE}) = m(\widehat{EDC})$
$|AF| = 6$ br
$|EB| = 2$ br
$\Rightarrow |DC| = x = ?$

A) 8 B) 9 C) 10 D) 11 E) 12

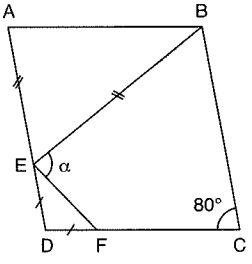
11.



ABCD paralelkenar
ABCD parallelogram
[AF], [BE] açıortay
[AF], [BE] bisector
$|AB| = 10$ br
$|AD| = 6$ br
$\Rightarrow |EF| = x = ?$

A) 1 B) 2 C) 4 D) 5 E) 6

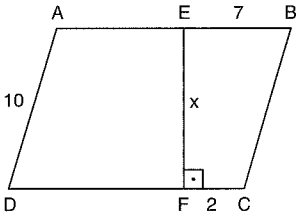
12.



ABCD paralelkenar
ABCD parallelogram
$|AE| = |EB|$
$|ED| = |DF|$
$m(\widehat{DCB}) = 80°$
$\Rightarrow m(\widehat{BEF}) = \alpha = ?$

A) 120 B) 110 C) 100 D) 90 E) 80

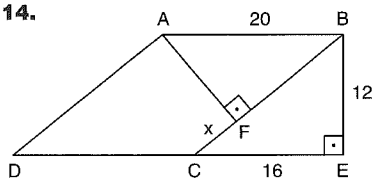
13.



ABCD paralelkenar
ABCD parallelogram
$[EF] \perp [DC]$
$|EB| = 7$ br
$|FC| = 2$ br
$|AD| = 10$ br
$\Rightarrow |EF| = x = ?$

A) 5 B) $5\sqrt{2}$ C) $5\sqrt{3}$ D) 10 E) 15

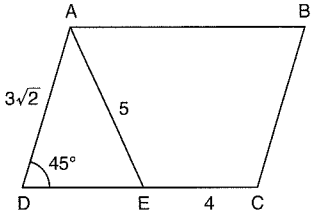
14.



ABCD paralelkenar
ABCD parallelogram
$[BE] \perp [DE]$
$[AF] \perp [BC]$
$|AB| = 20$ br
$|CE| = 16$ br
$|BE| = 12$ br
$\Rightarrow |CF| = x = ?$

A) 2 B) 4 C) 6 D) 8 E) 10

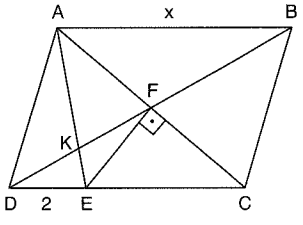
15.



ABCD paralelkenar
ABCD parallelogram
$|AE| = 5$ br
$|EC| = 4$ br
$|AD| = 3\sqrt{2}$ br
$m(\widehat{ADC}) = 45°$
$\Rightarrow A(ABCD) = ?$

A) 32 B) 33 C) 45 D) 48 E) 52

16.

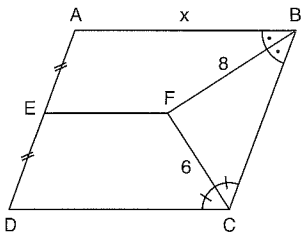


$[EF] \perp [AC]$
$|DE| = 2$ br
$|AE| = 8$ br
$\Rightarrow |AB| = x = ?$

A) 12 B) 10 C) 8 D) 6 E) 4

PUZA YAYINLARI

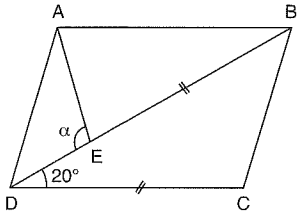
1.



ABCD paralelkenar
ABCD parallelogram
[BF], [FC] açıortay
[BF], [FC] bisector
$|EF| = 2$ br
$|FC| = 6$ br
$|FB| = 8$ br
$\Rightarrow |AB| = x = ?$

A) 4 B) 5 C) 7 D) 8 E) 10

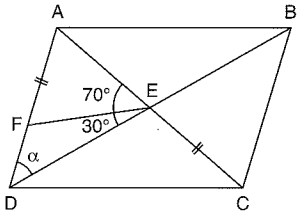
2.



ABCD paralelkenar
ABCD parallelogram
$|EB| = |DC|$
$m(\widehat{BDC}) = 20°$
$\Rightarrow m(\widehat{AED}) = \alpha = ?$

A) 80 B) 90 C) 100 D) 120 E) 140

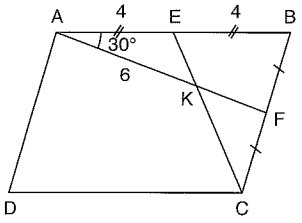
3.



ABCD paralelkenar
ABCD parallelogram
$|AF| = |EC|$
$m(\widehat{AEF}) = 70°$
$m(\widehat{FED}) = 30°$
$\Rightarrow m(\widehat{ADB}) = \alpha = ?$

A) 10 B) 15 C) 20 D) 25 E) 40

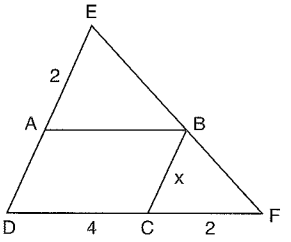
4.



ABCD paralelkenar
ABCD parallelogram
$|AK| = 6$ br
$|AE| = |EB| = 4$ br
$|BF| = |FC|$
$m(\widehat{BAF}) = 30°$
$\Rightarrow A(ABCD) = ?$

A) 144 B) 108 C) 72 D) 48 E) 36

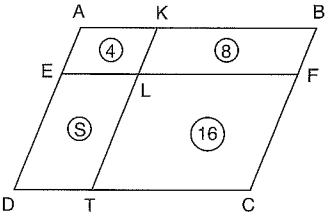
5.



ABCD paralelkenar
ABCD parallelogram
$|DC| = 4$ br
$|AE| = |CF| = 2$ br
$\Rightarrow |BC| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

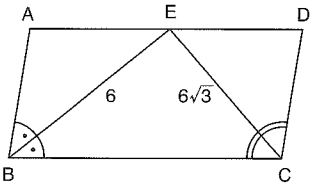
6.



ABCD paralelkenar
ABCD parallelogram
$A(AKLE) = 4$ br^2
$A(KBFL) = 8$ br^2
$A(LFCT) = 16$ br^2
[AB] // [EF]
[AD] // [KT]
$\Rightarrow A(ELTD) = S = ?$

A) 2 B) 4 C) 8 D) 12 E) 16

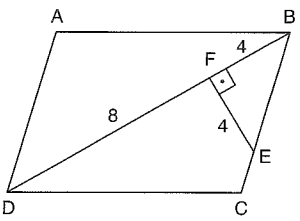
7.



ABCD paralelkenar
ABCD parallelogram
[BE], [CE] açıortay
[BE], [CE] açıortay
$|ED| = 6$ br
$|EC| = 6\sqrt{3}$ br
$\Rightarrow Ç(ABCD) = ?$

A) 28 B) 30 C) 32 D) 36 E) 48

8.

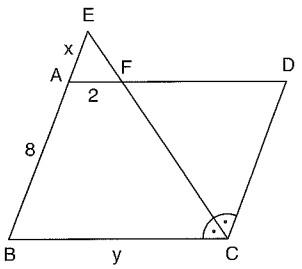


ABCD paralelkenar
ABCD parallelogram
$[EF] \perp [BD]$
$|FD| = 8$ br
$|EF| = |FB| = 4$ br
$|BE| = 2|EC|$
$\Rightarrow A(ABCD) = ?$

A) 72 B) 48 C) 42 D) 36 E) 24

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

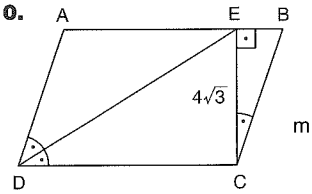
9.



ABCD paralelkenar
ABCD parallelogram
$m(\widehat{ECB}) = m(\widehat{ECD})$
$|AF| = 2$ br
$|AB| = 8$ br
$|AE| = x$
$|BC| = y$
$\Rightarrow x + y = ?$

A) 10 B) 12 C) 14 D) 16 E) 18

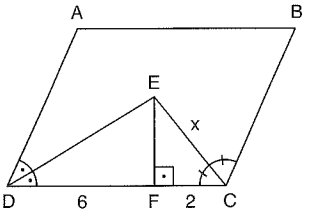
10.



ABCD paralelkenar
ABCD parallelogram
[CE] ⊥ [AB]
$m(\widehat{ADE}) = m(\widehat{EDC}) = m(\widehat{ECB})$
$|EC| = 4\sqrt{3}$ br
$\Rightarrow |AE| = x = ?$

A) 4 B) $4\sqrt{3}$ C) 6 D) 8 E) $8\sqrt{3}$

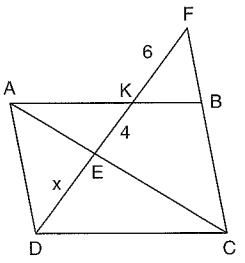
11.



ABCD paralelkenar
ABCD parallelogram
[DE], [EC] açıortay
[DE], [EC] bisector
$|DF| = 6$ br
$|FC| = 2$ br
$\Rightarrow |EC| = x = ?$

A) 2 B) 4 C) $4\sqrt{3}$ D) 8 E) $8\sqrt{3}$

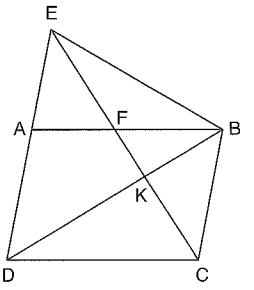
12.



ABCD paralelkenar
ABCD parallelogram
$|KF| = 6$ br
$|EK| = 4$ br
$\Rightarrow |DE| = x = ?$

A) 4 B) $2\sqrt{3}$ C) $4\sqrt{2}$ D) $2\sqrt{10}$ E) 10

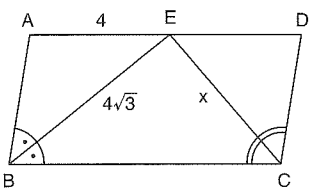
13.



ABCD paralelkenar
ABCD parallelogram
$A(EBC) = 8$ br^2
$\Rightarrow A(ABCD) = ?$

A) 8 B) 12 C) 16 D) 20 E) 24

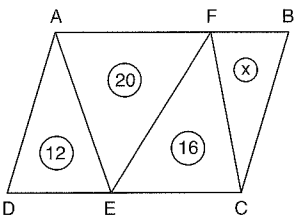
14.



ABCD paralelkenar
ABCD parallelogram
[BE], [CE] açıortay
[BE], [CE] bisector
$|AE| = 4$ br
$|BE| = 4\sqrt{3}$ br
$\Rightarrow |EC| = x = ?$

A) 2 B) 4 C) $4\sqrt{3}$ D) 8 E) $8\sqrt{3}$

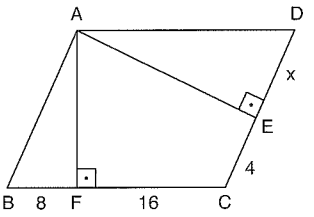
15.



ABCD paralelkenar
ABCD parallelogram
$A(AEF) = 20$ br^2
$A(EFC) = 16$ br^2
$A(DAE) = 12$ br^2
$\Rightarrow A(FBC) = ?$

A) 2 B) 4 C) 6 D) 8 E) 10

16.

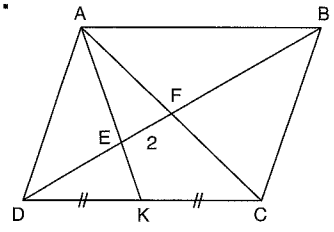


ABCD paralelkenar
ABCD parallelogram
[AF] ⊥ [BC]
[AE] ⊥ [DC]
$|EC| = 4$ br
$|BF| = 8$ br
$|FC| = 16$ br
$\Rightarrow |DE| = x = ?$

A) 6 B) 8 C) 10 D) 12 E) 16

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

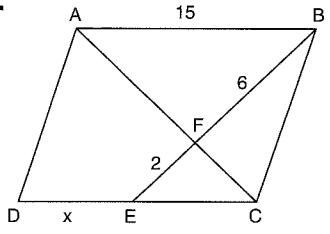
1.



ABCD paralelkenar
ABCD parallelogram
$|EF| = 2$ br
$|DK| = |KC|$
$\Rightarrow |BD| = ?$

A) 6 B) 8 C) 10 D) 12 E) 16

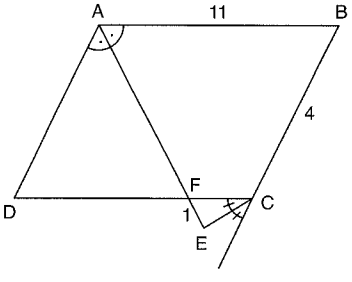
2.



ABCD paralelkenar
ABCD parallelogram
$|AB| = 15$ br
$|BF| = 6$ br
$|FE| = 2$ br
$\Rightarrow |DE| = x = ?$

A) 11 B) 10 C) 8 D) 6 E) 5

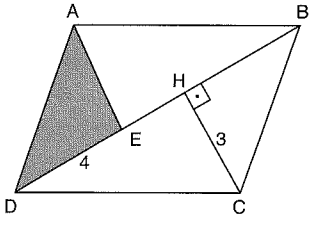
3.



ABCD paralelkenar
ABCD parallelogram
[AE] ve [CE] açıortay
[AE] and [CE] bisector
$|AB| = 11$ br
$|BC| = 4$ br
$|FE| = 1$ br
$\Rightarrow |EC| = ?$

A) 3 B) $\sqrt{15}$ C) 4 D) $2\sqrt{5}$ E) $4\sqrt{3}$

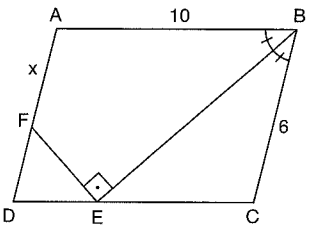
4.



ABCD paralelkenar
ABCD parallelogram
[CH] ⊥ [BD]
$|CH| = 3$ br
$|DE| = 4$ br
$\Rightarrow$ A(ADE) = ?

A) 6 B) $6\sqrt{3}$ C) 12 D) $12\sqrt{3}$ E) 24

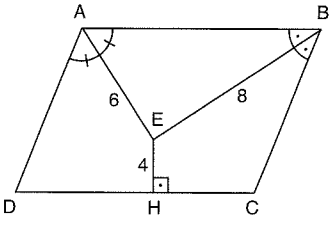
5.



ABCD paralelkenar
ABCD parallelogram
[BE] açıortay
[BE] bisector
[BE] ⊥ [FE]
$|AB| = 10$ br
$|BC| = 6$ br
$\Rightarrow |AF| = x = ?$

A) 2 B) 3 C) 4 D) 5 E) 6

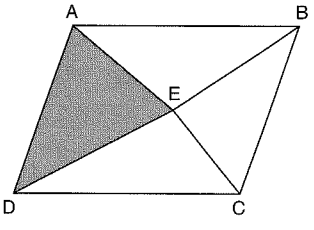
6.



ABCD paralelkenar
ABCD parallelogram
[AE] ve [BE] açıortay
[AE] and [BE] bisector
[EH] ⊥ [DC]
$|AE| = 6$ br
$|BE| = 8$ br
$|EH| = 4$ br
$\Rightarrow$ A(ABCD) = ?

A) 24 B) 44 C) 48 D) 88 E) 96

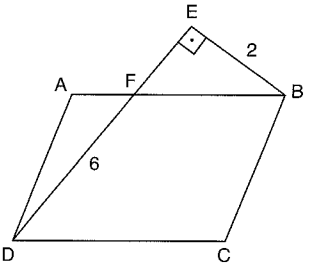
7.



ABCD paralelkenar
ABCD parallelogram
A(ABE) = 2 br^2
A(EBC) = 3 br^2
A(ECD) = 6 br^2
$\Rightarrow$ A(ADE) = ?

A) 11 B) 6 C) 5 D) 4 E) 3

8.

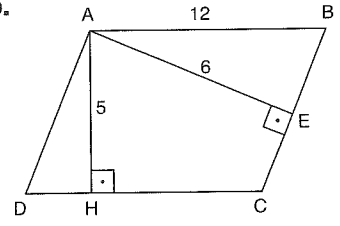


ABCD paralelkenar
ABCD parallelogram
$|AF| = 2|FB|$
$|EB| = 2$ br
$|DF| = 6$ br
[EB] ⊥ [ED]
$\Rightarrow$ A(ABCD) = ?

A) 144 B) 72 C) 36 D) 12 E) 6

PUZA YAYINLARI

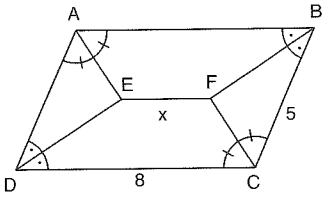
9.



ABCD paralelkenar
ABCD parallelogram
[AE] ⊥ [BC]
[AH] ⊥ [DC]
|AB| = 12 br
|AE| = 6 br
|AH| = 5 br
⇒|AD| = x = ?

A) $\frac{72}{5}$ B) 13 C) 10 D) 8 E) $5\sqrt{2}$

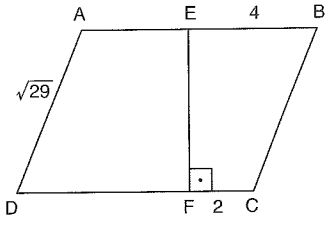
10.



ABCD paralelkenar
ABCD parallelogram
[AE], [BF], [DE] ve [FC] açıortaylar
[AE, [BF], [DE] and [FC] bisectors
|DC| = 8 br
|BC| = 5 br
⇒|EF| = x = ?

A) 5 B) 4 C) 3 D) 2 E) 1

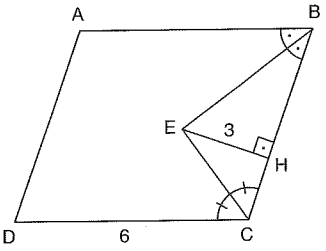
11.



ABCD paralelkenar
ABCD parallelogram
[EF] ⊥ [DC]
|AD| = $\sqrt{29}$ br
|EB| = 4 br
|FC| = 2 br
⇒|EF| = x = ?

A) $\sqrt{13}$ B) 5 C) $\sqrt{30}$ D) $\sqrt{33}$ E) 6

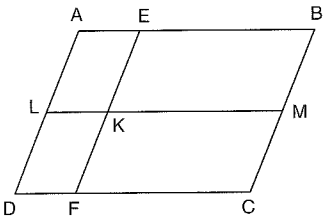
12.



ABCD paralelkenar
ABCD parallelogram
[BE] ve [CE] açıortay
[BE] and [CE] bisector
[EH] ⊥ [BC]
|EH| = 3 br
|DC| = 6 br
⇒ A(ABCD) = ?

A) 45 B) 36 C) 27 D) 18 E) 9

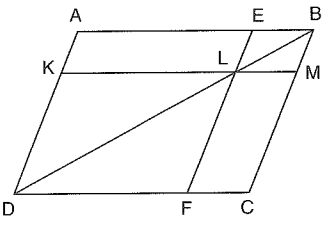
13.



ABCD paralelkenar
ABCD parallelogram
[AB] // [LM]
[AD] // [EF]
A(AEKL) = 6 br^2
A(EBMK) = 15 br^2
A(LKFD) = 8 br^2
⇒ A(KMCF) = ?

A) 18 B) 20 C) 24 D) 25 E) 30

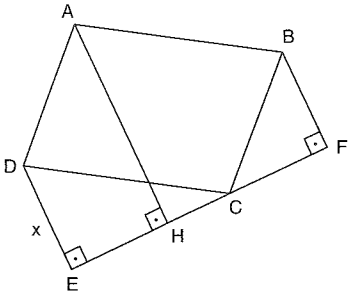
14.



ABCD paralelkenar
ABCD parallelogram
[EF] // [BC]
[KM] // [AB]
A(BML) = 4 br^2
A(LFD) = 9 br^2
⇒ A(AELK) = ?

A) 24 B) 18 C) 15 D) 12 E) 6

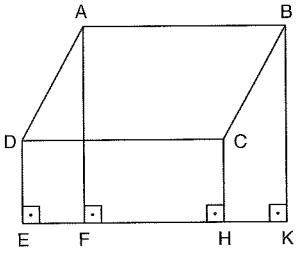
15.



ABCD paralelkenar
ABCD parallelogram
[BF] ⊥ [EF]
[AH] ⊥ [EF]
[DE] ⊥ [EF]
|BF| = 2 br
|AH| = 5 br
⇒ |DE| = x = ?

A) 3 B) 4 C) 5 D) 6 E) 7

16.



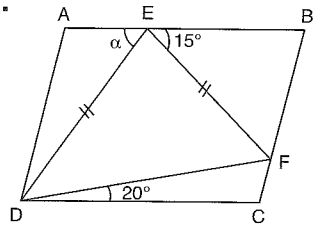
ABCD paralelkenar
ABCD parallelogram
[DE] ⊥ [EK]
[AF] ⊥ [EK]
[CH] ⊥ [EK]
[BK] ⊥ [EK]
|CH| = 2 br
|AF| = 9 br
|DE| = 3 br
⇒ |BK| = x = ?

A) 16 B) 10 C) 8 D) 4 E) 2

PUZA YAYINLARI

www.ztcprep.com

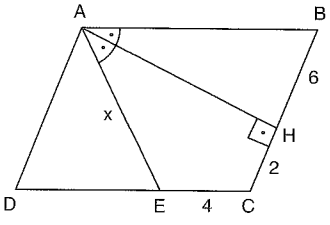
1.



ABCD paralelkenar
ABCD parallelogram
$|DE| = |EF|$
$m(BEF) = 15°$
$m(FDC) = 20°$
$\Rightarrow m(AED) = \alpha = ?$

A) 45 B) 55 C) 60 D) 70 E) 75

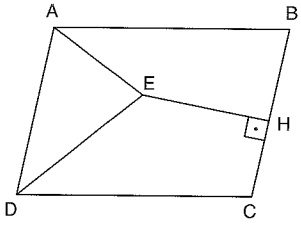
2.



ABCD paralelkenar
ABCD parallelogram
$[AH] \perp [BC]$
[AH] açıortay
[AH] bisector
$|BH| = 6$ br
$|HC| = 2$ br
$|EC| = 4$ br
$\Rightarrow |AE| = x = ?$

A) 2 B) 4 C) 6 D) 8 E) 10

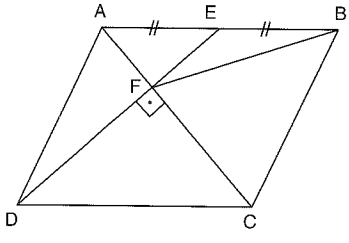
3.



ABCD paralelkenar
ABCD parallelogram
ADE eşkenar üçgen
ADE equilateral triangle
$[EH] \perp [BC]$
$|BC| = 8$ br
$|EH| = 2\sqrt{3}$ br
$\Rightarrow A(ABCD) = ?$

A) $24\sqrt{2}$ B) $24\sqrt{3}$ C) 48 D) $48\sqrt{2}$ E) $48\sqrt{3}$

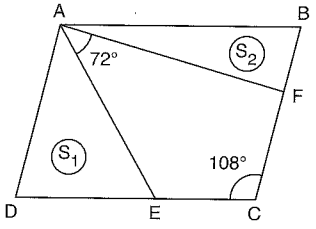
4.



ABCD paralelkenar
ABCD parallelogram
$[AC] \perp [DE]$
$|AE| = |EB|$
$|DF| = 24$ br
$|BF| = 26$ br
$\Rightarrow |AC| = ?$

A) 26 B) 28 C) 30 D) 32 E) 36

5.

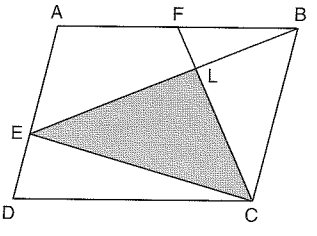


ABCD paralelkenar
ABCD parallelogram
$m(\widehat{FAE}) = 72°$
$m(\widehat{BCD}) = 108°$
$|AF| = 8$ br
$|AE| = 4$ br
$|BF| = |DE|$

$A(ADE) = S_1$ ve $A(ABF) = S_2$
$\Rightarrow \frac{S_1}{S_2} = ?$

A) $\frac{1}{2}$ B) 1 C) $\frac{4}{3}$ D) $\frac{3}{2}$ E) 2

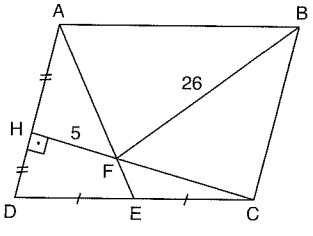
6.



ABCD paralelkenar
ABCD parallelogram
$2|AE| = 3|ED|$
$A(ECD) = 24\,br^2$
$A(BLC) = 20\,br^2$
$\Rightarrow A(ELC) = ?$

A) 4 B) 10 C) 16 D) 40 E) 60

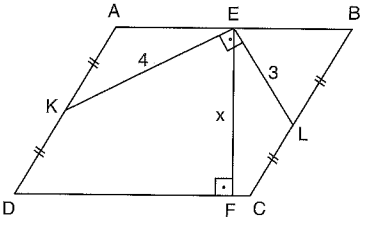
7.



ABCD paralelkenar
ABCD parallelogram
$[CH] \perp [AD]$
$|AH| = |HD|$
$|DE| = |EC|$
$|BF| = 26$ br
$|FH| = 5$ br
$\Rightarrow A(ABCD) = ?$

A) 60 B) 120 C) 180 D) 240 E) 360

8.



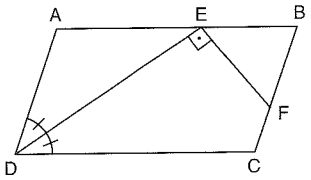
ABCD paralelkenar
ABCD parallelogram
$[EL] \perp [EK]$
$[EF] \perp [DC]$
$|KE| = 4$ br
$|EL| = 3$ br
$|AK| = |KD|$
$|BL| = |LC|$
$\Rightarrow |EF| = x = ?$

A) 3,6 B) 4 C) 4,8 D) 6 E) 10

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

www.ztcprep.com

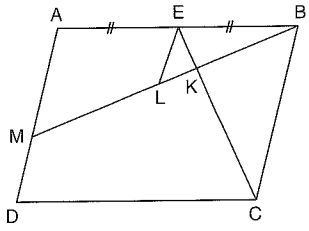
9.



ABCD paralelkenar
ABCD parallelogram
[EF] ⊥ [ED]
$m(\widehat{ADE}) = m(\widehat{EDC})$
$2|BF| = 3|FC|$
$|EF| = 12$ br
$|DE| = 15$ br
$\Rightarrow$ A(ABCD) = ?

A) 60 B) 90 C) 120 D) 180 E) 240

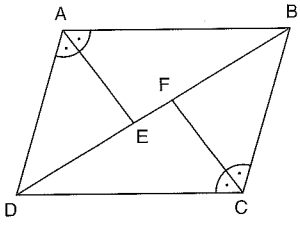
10.



ABCD paralelkenar
ABCD parallelogram
[EL] // [AD]
$|AE| = |EB|$
$|EL| = 3$ br
$|MD| = 3$ br
$\Rightarrow \frac{|KL|}{|BM|} = ?$

A) $\frac{1}{8}$ B) $\frac{1}{5}$ C) $\frac{2}{5}$ D) $\frac{3}{5}$ E) $\frac{2}{3}$

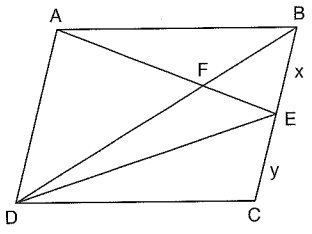
11.



ABCD paralelkenar
ABCD parallelogram
[AE] ve [FC] açıortay
[AE] and [FC] bisector
$|EF| = 1$ br
$|DC| = 10$ br
$|BC| = 8$ br
$\Rightarrow |BD| = ?$

A) 18 B) 16 C) 12 D) 9 E) 8

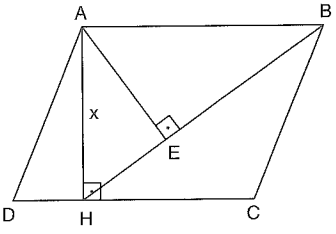
12.



ABCD paralelkenar
ABCD parallelogram
$A(AFD) = 16\,br^2$
$A(DEC) = 12\,br^2$
$|BE| = x$
$|EC| = y$
$\Rightarrow \frac{x}{y} = ?$

A) $\frac{2}{3}$ B) $\frac{3}{5}$ C) 1 D) $\frac{5}{3}$ E) 2

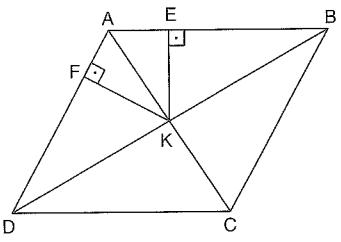
13.



ABCD paralelkenar
ABCD parallelogram
[AE] ⊥ [BH]
[AH] ⊥ [DC]
$|AE| = 6$ br
$|EB| = 4$ br
$\Rightarrow |AH| = x = ?$

A) $6\sqrt{3}$ B) $3\sqrt{13}$ C) 12 D) $12\sqrt{3}$ E) 15

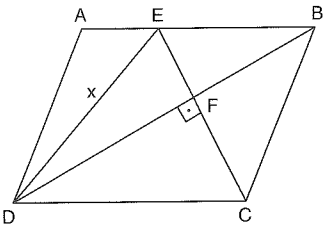
14.



ABCD paralelkenar
ABCD parallelogram
[KE] ⊥ [AB]
[FK] ⊥ [AD]
$m(\widehat{BCD}) = 135°$
$|FK| = 2$ br
$|EK| = 4$ br
$\Rightarrow$ A(ABCD) = ?

A) 8 B) 16 C) $16\sqrt{2}$ D) 32 E) $32\sqrt{2}$

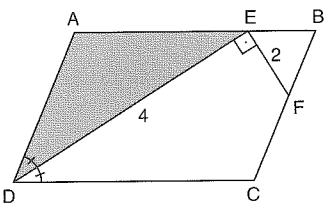
15.



ABCD paralelkenar
ABCD parallelogram
[BD] ⊥ [EC]
$|EB| = 2|AE|$
$|AD| = 15$ br
$|DF| = 18$ br
$\Rightarrow |DE| = x = ?$

A) 36 B) $18\sqrt{5}$ C) 25 D) $9\sqrt{5}$ E) $6\sqrt{10}$

16.



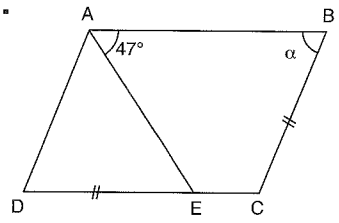
ABCD paralelkenar
ABCD parallelogram
[DE] açıortay
[DE] bisector
$|EF| = 2$ br
$|DE| = 4$ br
$|BF| = 2|FC|$
$\Rightarrow$ A(ADE) = ?

A) 3 B) 5 C) 6 D) 10 E) 12

PUZA YAYINLARI

www.ztcprep.com

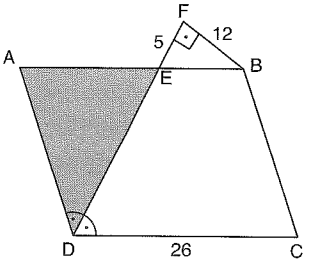
1.



ABCD paralelkenar
ABCD parallelogram
$m(\widehat{BAE}) = 47°$
$|BC| = |DE|$
$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 43 B) 47 C) 84 D) 86 E) 104

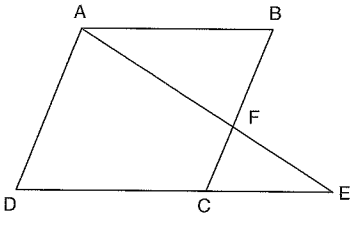
2.



ABCD paralelkenar
ABCD parallelogram
[FB] ⊥ [DF]
[DF] açıortay
[DF] bisector
$|FE| = 5$ br
$|FB| = 12$ br
$|DC| = 26$ br
$\Rightarrow A(AED) = ?$

A) 120 B) 90 C) 60 D) 45 E) 30

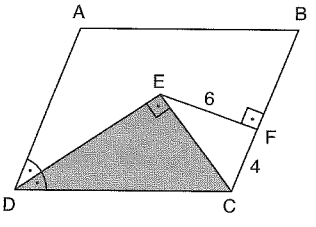
3.



ABCD paralelkenar
ABCD parallelogram
$A(AFB) = 16\,br^2$
$A(FEC) = 4\,br^2$
$\Rightarrow A(ABCD) = ?$

A) 24 B) 36 C) 48 D) 72 E) 96

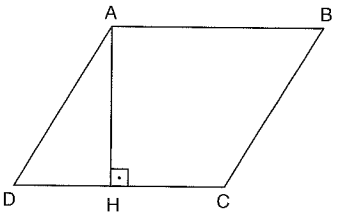
4.



ABCD paralelkenar
ABCD parallelogram
[EF] ⊥ [BC]
[DE] ⊥ [CE]
[DE] açıortay
[DE] bisector
$|FC| = 4$ br
$|EF| = 6$ br
$\Rightarrow A(EDC) = ?$

A) 39 B) 24 C) 18 D) 13 E) 12

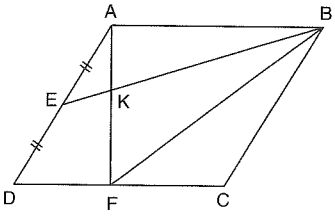
5.



ABCD paralelkenar
ABCD parallelogram
[AH] ⊥ [DC]
$m(\widehat{ABC}) = 2m(\widehat{DAH})$
$|DH| = 3$ br
$|HC| = 5$ br
$\Rightarrow Ç(ABCD) = ?$

A) 15 B) 24 C) 28 D) 32 E) 48

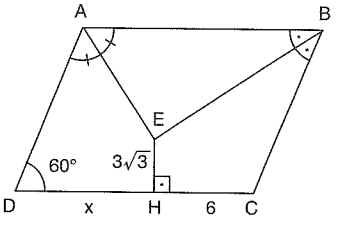
6.



ABCD paralelkenar
ABCD parallelogram
$|AE| = |ED|$
$A(AEK) = 4$ br
$A(BKF) = 12\,br^2$
$\Rightarrow A(ABK) = ?$

A) 4 B) 6 C) 8 D) 10 E) 12

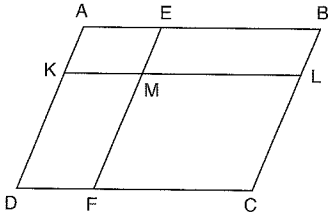
7.



ABCD paralelkenar
ABCD parallelogram
[AE] ve [BE] açıortay
[AE] and [BE] bisector
[EH] ⊥ [DC]
$m(\widehat{ADC}) = 60°$
$|EH| = 3\sqrt{3}$ br
$|HC| = 6$ br
$\Rightarrow |DH| = x = ?$

A) 15 B) 12 C) 9 D) 6 E) 3

8.

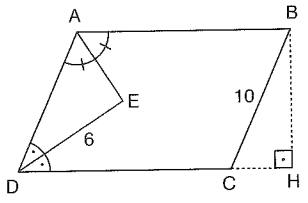


ABCD paralelkenar
ABCD parallelogram
[KL] // [DC]
[EF] // [AD]
$|CL| = 3|BL|$
$A(AEMK) = 7\,br^2$
$A(MLCF) = 42\,br^2$
$A(EBLM) = S_1$
$A(KMFD) = S_2$
$\Rightarrow S_1 + S_2 = ?$

A) 49 B) 42 C) 40 D) 35 E) 32

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

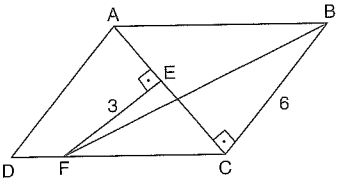
9.



ABCD paralelkenar
ABCD parallelogram
[AE] ve [DE] açıortay
[AE] and [DE] bisector
$|BC| = 10$ br
$|DE| = 6$ br
$[BH] \perp [DC]$
$\Rightarrow |BH| = ?$

A) 2,4 B) 4,8 C) 6 D) 8 E) 9,6

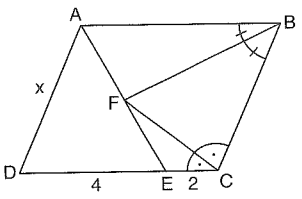
10.



ABCD paralelkenar
ABCD parallelogram
$[EF] \perp [AC]$
$[AC] \perp [BC]$
[BF] açıortay
[BF] bisector
$|EF| = 3$ br
$|BC| = 6$ br
$\Rightarrow |AE| = ?$

A) $\frac{3\sqrt{3}}{2}$ B) 3 C) $3\sqrt{3}$ D) 6 E) 9

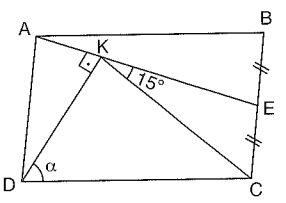
11.



ABCD paralelkenar
ABCD parallelogram
[BF] ve [CF] açıortay
[BF] ve [CF] bisector
$|EC| = 2$ br
$|DE| = 4$ br
$\Rightarrow |AD| = x = ?$

A) 12 B) 8 C) 6 D) 5 E) 4

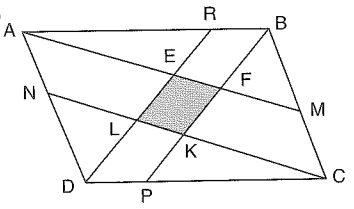
12.



ABCD paralelkenar
ABCD parallelogram
$|BE| = |EC|$
$[DK] \perp [AE]$
$m(\widehat{CKE}) = 15°$
$\Rightarrow m(\widehat{KDC}) = \alpha = ?$

A) 75 B) 60 C) 45 D) 30 E) 15

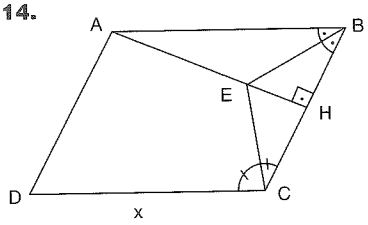
13.



ABCD paralelkenar
ABCD parallelogram
$|ND| = 2|NA|$
$|PC| = 2|PD|$
$\Rightarrow \frac{A(ABCD)}{A(EFKL)} = ?$

A) 4 B) 6 C) 8 D) 12 E) 13

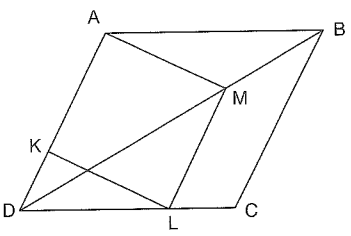
14.



ABCD paralelkenar
ABCD parallelogram
$[AH] \perp [BC]$
[BE] ve [CE] açıortay
[BE] and [CE] bisector
$|BH| = 6$ br
$|HC| = \frac{3}{2}$ br
$\Rightarrow |DC| = x = ?$

A) 15 B) 12 C) 10 D) 8 E) 6

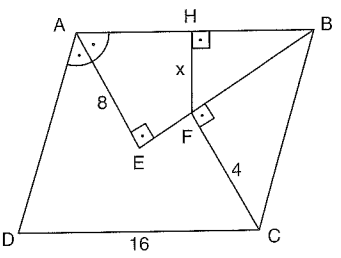
15.



ABCD paralelkenar
ABCD parallelogram
KLMA kare
KLMA square
$|BC| = 9$ br
$|KD| = 4$ br
$\Rightarrow A(ABCD) = ?$

A) 54 B) 64 C) 72 D) 81 E) 90

16.



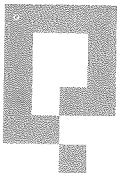
ABCD paralelkenar
ABCD parallelogram
$[FH] \perp [AB]$
$[CF] \perp [EB]$
$[AE] \perp [EB]$
$|AE| = 8$ br
$|CF| = 4$ br
$|DC| = 16$ br
$\Rightarrow |HF| = x = ?$

A) $2\sqrt{3}$ B) 4 C) $4\sqrt{3}$ D) 6 E) $6\sqrt{3}$

PUZA YAYINLARI

www.ztcprep.com

ZTC زنگنه مجموعه موسسات



PARALELKENAR PARALLELOGRAM

Yanıt Anahtarı Answer Key

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	E	B	D	D	A	C	D	B	C	E	D	B	B	E	A

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	E	E	C	A	A	B	B	D	D	C	C	D	D	B	D

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	C	C	B	D	B	A	A	C	B	D	C	C	D	C	A

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	C	D	C	B	B	B	D	E	B	C	C	E	A	E	A

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	B	B	E	E	D	A	C	C	C	B	A	B	C	C	E

TEST 6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	E	B	E	A	C	B	C	B	A	B	A	C	B	B	B

TEST 7

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	C	E	C	A	C	D	A	B	D	B	D	C	B	D	D

TEST 8

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	B	E	A	A	D	C	C	C	C	B	B	B	D	A	C

TEST 7

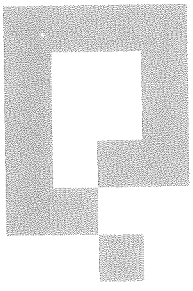
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	D	E	C	A	D	E	C	E	A	D	C	B	E	E	A

TEST 8

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	C	A	C	A	B	D	E	C	B	A	E	C	D	A

www.ztcprep.com

ZTC زنگنه
مجموعه موسسات

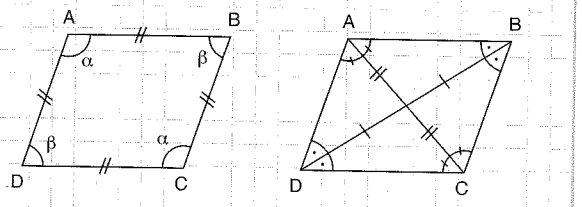


EŞKENAR DÖRTGEN

RHOMBUS

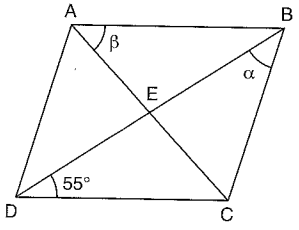
www.ztcprep.com

ÖZELLİK | Property 1



$\alpha + \beta = 180°$

1.



ABCD eşkenar dörtgen

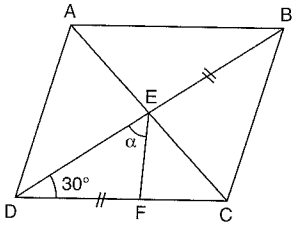
ABCD rhombus

$\Rightarrow \alpha = ?$

$\Rightarrow \beta = ?$

55, 35

2.



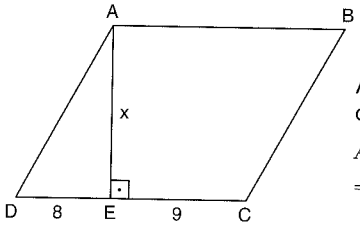
ABCD eşkenar dörtgen

ABCD rhombus

$\Rightarrow \alpha = ?$

75

3.



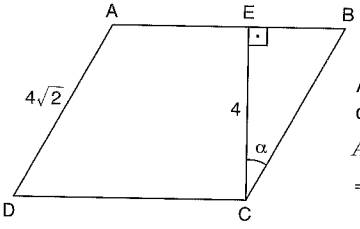
ABCD eşkenar dörtgen

ABCD rhombus

$\Rightarrow x = ?$

15

4.



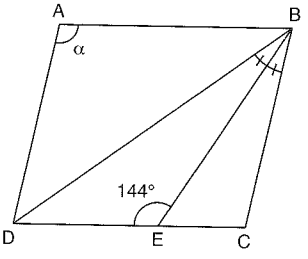
ABCD eşkenar dörtgen

ABCD rhombus

$\Rightarrow \alpha = ?$

45

5.



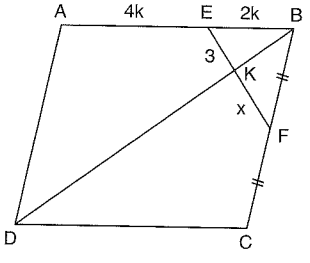
ABCD eşkenar dörtgen

ABCD rhombus

$\Rightarrow \alpha = ?$

132

6.



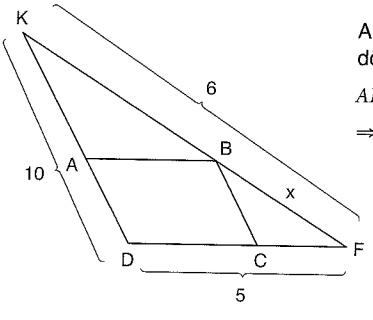
ABCD eşkenar dörtgen

ABCD rhombus

$\Rightarrow x = ?$

4,5

7.



ABCD eşkenar dörtgen

ABCD rhombus

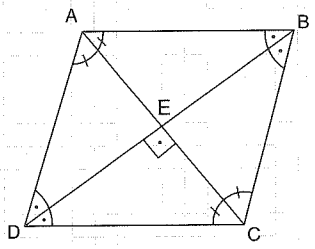
$\Rightarrow x = ?$

2

PUZA YAYINLARI

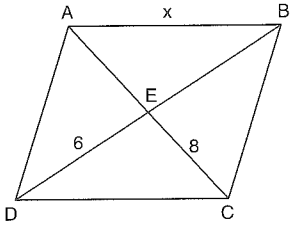
www.ztcprep.com

ÖZELLİK | Property 2



[AC] ⊥ [BD]

1.



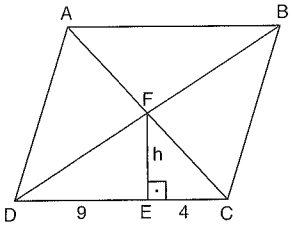
ABCD eşkenar dörtgen

ABCD rhombus

⇒ x = ?

10

2.



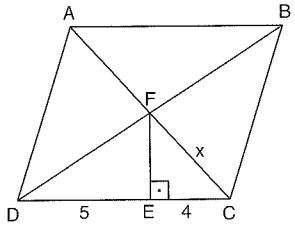
ABCD eşkenar dörtgen

ABCD rhombus

⇒ h = ?

6

3.



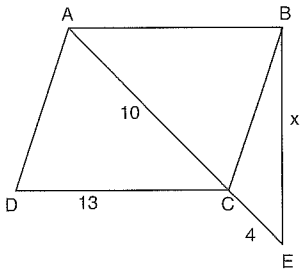
ABCD eşkenar dörtgen

ABCD rhombus

⇒ x = ?

6

4.



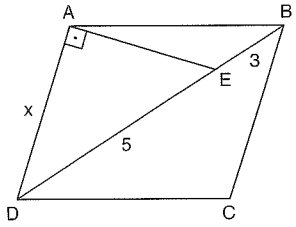
ABCD eşkenar dörtgen

ABCD rhombus

⇒ x = ?

15

5.



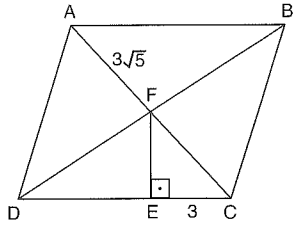
ABCD eşkenar dörtgen

ABCD rhombus

⇒ x = ?

$2\sqrt{5}$

6.



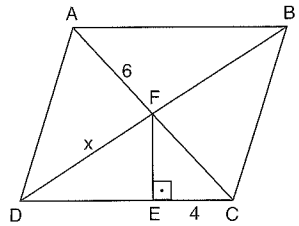
ABCD eşkenar dörtgen

ABCD rhombus

⇒ A(ABCD) = ?

180

7.



ABCD eşkenar dörtgen

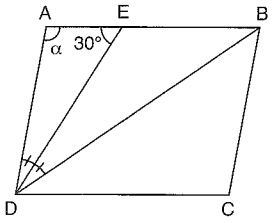
ABCD rhombus

⇒ x = ?

$3\sqrt{5}$

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

1.



ABCD eşkenar dörtgen

ABCD rhombus

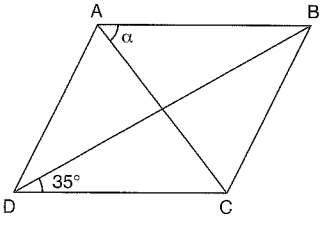
$m(\widehat{AED}) = 30°$

$m(\widehat{ADE}) = m(\widehat{EDB})$

$\Rightarrow m(\widehat{BAD}) = \alpha = ?$

A) 110 B) 120 C) 130 D) 140 E) 145

2.



ABCD eşkenar dörtgen

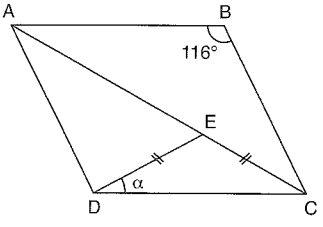
ABCD rhombus

$m(\widehat{BDC}) = 35°$

$\Rightarrow m(\widehat{CAB}) = \alpha = ?$

A) 35 B) 50 C) 55 D) 65 E) 70

3.



ABCD eşkenar dörtgen

ABCD rhombus

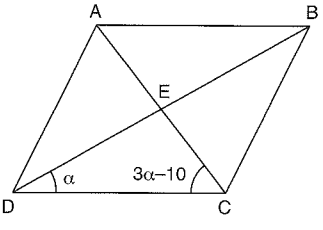
$|DE| = |EC|$

$m(\widehat{ABC}) = 116°$

$\Rightarrow m(\widehat{EDC}) = \alpha = ?$

A) 16 B) 24 C) 32 D) 40 E) 48

4.



ABCD eşkenar dörtgen

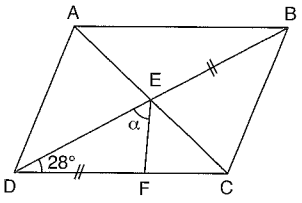
ABCD rhombus

$m(\widehat{ACD}) = 3\alpha - 10°$

$\Rightarrow m(\widehat{BDC}) = \alpha = ?$

A) 15 B) 25 C) 30 D) 32 E) 35

5.



ABCD eşkenar dörtgen

ABCD rhombus

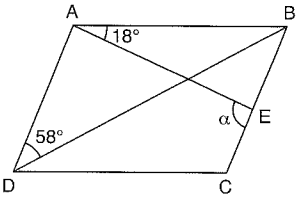
$|BE| = |DF|$

$m(\widehat{BDC}) = 28°$

$\Rightarrow m(\widehat{DEF}) = \alpha = ?$

A) 24 B) 76 C) 86 D) 96 E) 124

6.



ABCD eşkenar dörtgen

ABCD rhombus

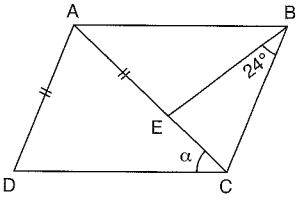
$m(\widehat{BAE}) = 18°$

$m(\widehat{ADB}) = 58°$

$\Rightarrow m(\widehat{AEC}) = \alpha = ?$

A) 66 B) 76 C) 88 D) 116 E) 134

7.



ABCD eşkenar dörtgen

ABCD rhombus

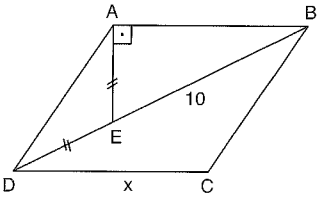
$m(\widehat{EBC}) = 24°$

$|AE| = |AD|$

$\Rightarrow m(\widehat{ACD}) = \alpha = ?$

A) 20 B) 30 C) 44 D) 48 E) 68

8.



ABCD eşkenar dörtgen

ABCD rhombus

$[AE] \perp [AB]$

$|AE| = |DE|$

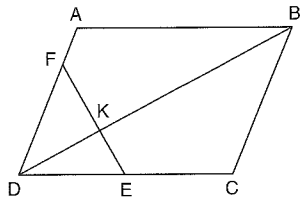
$|EB| = 10$ br

$\Rightarrow |DC| = x = ?$

A) 5 B) $5\sqrt{3}$ C) 10 D) $10\sqrt{3}$ E) 20

PUZA YAYINLARI

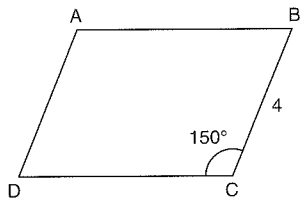
9.



ABCD eşkenar dörtgen
ABCD rhombus
$3|AF| = |DF|$
$2|AF| = |EC|$
$|FK| = 6$ br
$\Rightarrow |KE| = ?$

A) 2 B) 3 C) 4 D) 6 E) 8

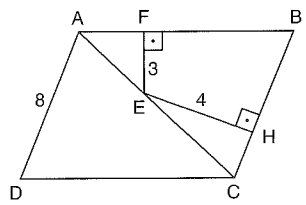
10.



ABCD eşkenar dörtgen
ABCD rhombus
$m(\widehat{BCD}) = 150°$
$|BC| = 4$ br
$\Rightarrow A(ABCD) = ?$

A) 4 B) $4\sqrt{3}$ C) 8 D) $8\sqrt{3}$ E) 16

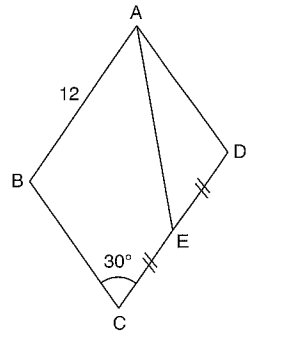
11.



ABCD eşkenar dörtgen
ABCD rhombus
$|AD| = 8$ br
$|EF| = 3$ br
$|EH| = 4$ br
$[AB] \perp [EF]$
$[BC] \perp [EH]$
$\Rightarrow A(ABCD) = ?$

A) 28 B) 35 C) 42 D) 49 E) 56

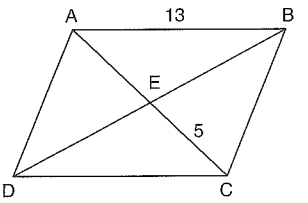
12.



ABCD eşkenar dörtgen
ABCD rhombus
$|AB| = 12$ br
$|DE| = |EC|$
$m(\widehat{BCD}) = 30°$
$\Rightarrow A(AED) = ?$

A) 114 B) 72 C) 54 D) 36 E) 18

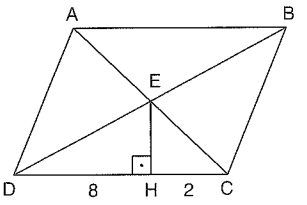
13.



ABCD eşkenar dörtgen
ABCD rhombus
$|AB| = 13$ br
$|CE| = 5$ br
$\Rightarrow A(ABCD) = ?$

A) 120 B) 112 C) 100 D) 90 E) 60

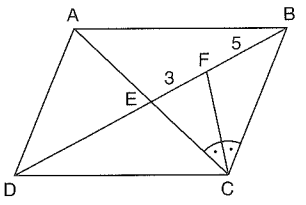
14.



ABCD eşkenar dörtgen
ABCD rhombus
$[EH] \perp [DC]$
$|DH| = 8$ br
$|HC| = 2$ br
$\Rightarrow A(ABCD) = ?$

A) 160 B) 140 C) 100 D) 80 E) 70

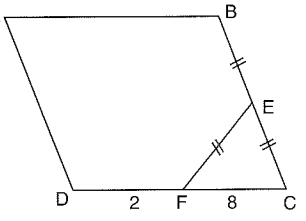
15.



ABCD eşkenar dörtgen
ABCD rhombus
$m(\widehat{ACF}) = m(\widehat{FCB})$
$|EF| = 3$ br
$|FB| = 5$ br
$\Rightarrow A(ABCD) = ?$

A) 24 B) $24\sqrt{2}$ C) 48 D) $48\sqrt{2}$ E) 96

16.



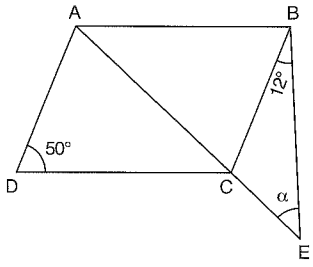
ABCD eşkenar dörtgen
ABCD rhombus
$|EB| = |EC| = |EF|$
$|FC| = 8$ br
$|DF| = 2$ br
$\Rightarrow A(ABCD) = ?$

A) 20 B) 30 C) 45 D) 60 E) 80

PUZA YAYINLARI

www.ztcprep.com

1.



ABCD eşkenar dörtgen

ABCD rhombus

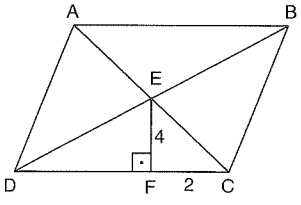
$m(\widehat{CBE}) = 12°$

$m(ADC) = 50°$

$\Rightarrow m(\widehat{AEB}) = \alpha = ?$

A) 38 B) 53 C) 62 D) 88 E) 148

2.



ABCD eşkenar dörtgen

ABCD rhombus

$[EF] \perp [DC]$

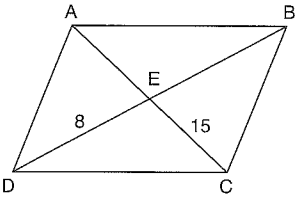
$|FC| = 2$ br

$|EF| = 4$ br

$\Rightarrow$ Ç(ABCD) = ?

A) 8 B) 10 C) 32 D) 40 E) 48

3.



ABCD eşkenar dörtgen

ABCD rhombus

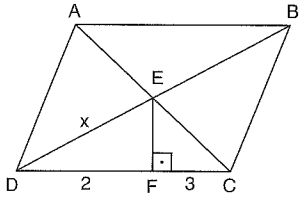
$|DE| = 8$ br

$|EC| = 15$ br

$\Rightarrow$ Ç(ABCD) = ?

A) 34 B) 68 C) 72 D) 78 E) 96

4.



ABCD eşkenar dörtgen

ABCD rhombus

$[EF] \perp [DC]$

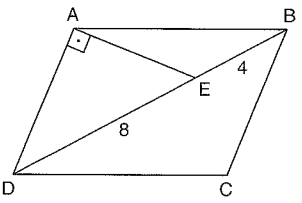
$|DF| = 2$ br

$|FC| = 3$ br

$\Rightarrow |DE| = x = ?$

A) 2 B) $\sqrt{6}$ C) $\sqrt{10}$ D) $\sqrt{13}$ E) 4

5.



ABCD eşkenar dörtgen

ABCD rhombus

$[EA] \perp [AD]$

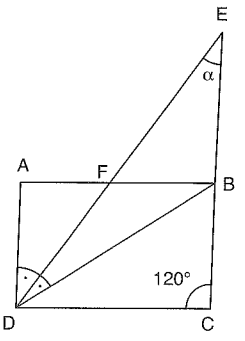
$|DE| = 8$ br

$|EB| = 4$ br

$\Rightarrow |AE| = x = ?$

A) $2\sqrt{3}$ B) 4 C) 6 D) $4\sqrt{6}$ E) 10

6.



ABCD eşkenar dörtgen

ABCD rhombus

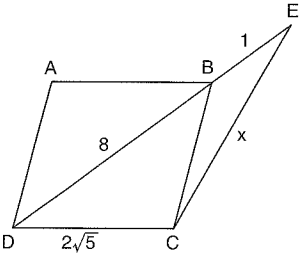
$m(\widehat{ECD}) = 120°$

$m(\widehat{ADE}) = m(\widehat{EDB})$

$\Rightarrow m(\widehat{DEC}) = \alpha = ?$

A) 15 B) 20 C) 25 D) 30 E) 40

7.



ABCD eşkenar dörtgen

ABCD rhombus

$|DB| = 8$ br

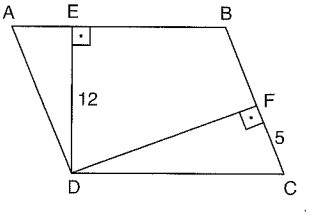
$|BE| = 1$ br

$|DC| = 2\sqrt{5}$ br

$\Rightarrow |CE| = x = ?$

A) $2\sqrt{5}$ B) $\sqrt{23}$ C) 5 D) $\sqrt{29}$ E) 6

8.



ABCD eşkenar dörtgen

ABCD rhombus

$[DE] \perp [AB]$

$[DF] \perp [BC]$

$|DE| = 12$ br

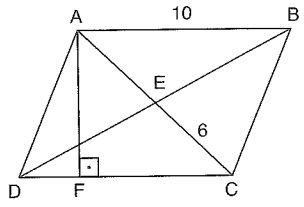
$|FC| = 5$ br

$\Rightarrow |EB| = x = ?$

A) 15 B) 13 C) 10 D) 8 E) 5

PUZA YAYINLARI

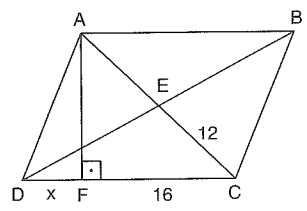
9.



ABCD eşkenar dörtgen
ABCD rhombus
$|AB| = 10$ br
$|EC| = 6$ br
$[AF] \perp [DC]$
$\Rightarrow |AF| = ?$

A) 2,4 B) 4,8 C) 7,2 D) 9,6 E) 10,8

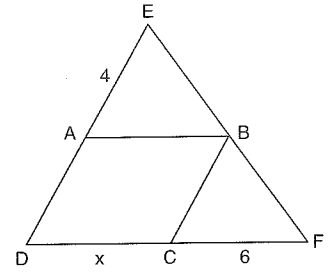
10.



ABCD eşkenar dörtgen
ABCD rhombus
$[AF] \perp [DC]$
$|EC| = 12$ br
$|FC| = 16$ br
$\Rightarrow |DF| = x = ?$

A) 6 B) 5 C) 4 D) 3 E) 2

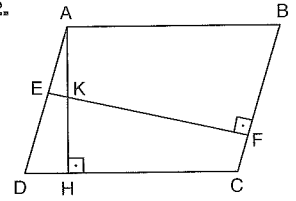
11.



ABCD eşkenar dörtgen
ABCD rhombus
$|EA| = 4$ br
$|CF| = 6$ br
$\Rightarrow |DC| = x = ?$

A) 2 B) 3 C) $2\sqrt{3}$ D) 4 E) $2\sqrt{6}$

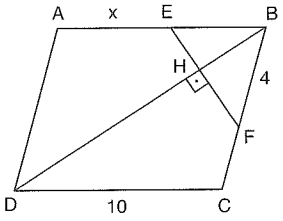
12.



ABCD eşkenar dörtgen
ABCD rhombus
$m(\widehat{ABC}) = 60°$
$[EF] \perp [BC]$
$[AH] \perp [DC]$
$|HK| = 4$ br
$|KF| = 6$ br
$\Rightarrow |AK| = ?$

A) $\frac{1}{\sqrt{3}}$ B) 1 C) $\sqrt{3}$ D) $2\sqrt{3}$ E) 4

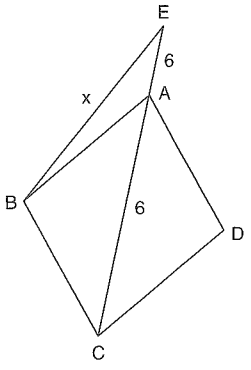
13.



ABCD eşkenar dörtgen
ABCD rhombus
$[EF] \perp [DB]$
$|BF| = 4$ br
$|DC| = 10$ br
$\Rightarrow |AE| = x = ?$

A) 2 B) 4 C) 6 D) 7 E) 8

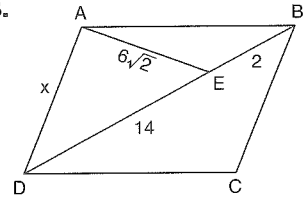
14.



ABCD eşkenar dörtgen
ABCD rhombus
$|AC| = 6$ br
$|AE| = 6$ br
$A(ABCD) = 24$ br^2
$\Rightarrow |BE| = x = ?$

A) 5 B) $\sqrt{97}$ C) $\sqrt{107}$ D) $4\sqrt{10}$ E) 20

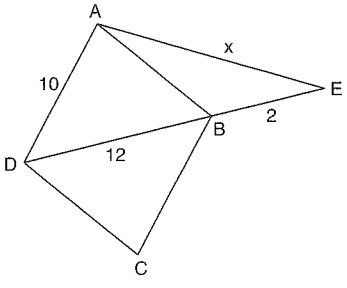
15.



ABCD eşkenar dörtgen
ABCD rhombus
$|AE| = 6\sqrt{2}$ br
$|DE| = 14$ br
$|EB| = 2$ br
$\Rightarrow |AD| = x = ?$

A) 15 B) 12 C) 10 D) 8 E) 6

16.



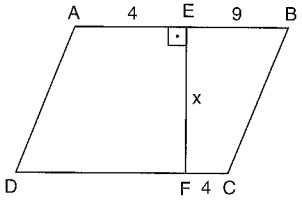
ABCD eşkenar dörtgen
ABCD rhombus
$|AD| = 10$ br
$|DB| = 12$ br
$|BE| = 2$ br
$\Rightarrow |AE| = x = ?$

A) 10 B) $8\sqrt{2}$ C) 8 D) $6\sqrt{2}$ E) 6

PUZA YAYINLARI

www.ztcprep.com

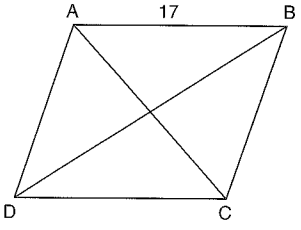
1.



ABCD eşkenar dörtgen
ABCD rhombus
$[FE] \perp [AB]$
$|AE| = 4$ br
$|EB| = 9$ br
$|FC| = 4$ br
$\Rightarrow |EF| = x = ?$

A) 7 B) 9 C) 12 D) 13 E) 15

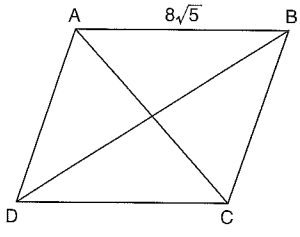
2.



ABCD eşkenar dörtgen
ABCD rhombus
$|AB| = 17$ br
$A(ABCD) = 240$ br^2
$\Rightarrow |AC| + |BD| = ?$

A) 23 B) 34 C) 42 D) 46 E) 52

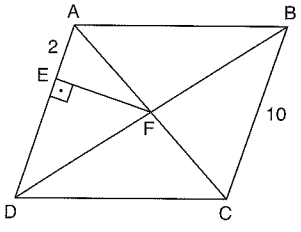
3.



ABCD eşkenar dörtgen
ABCD rhombus
$|BD| = 2|AC|$
$|AB| = 8\sqrt{5}$
$\Rightarrow A(ABCD) = ?$

A) 32 B) 64 C) 128 D) 256 E) 512

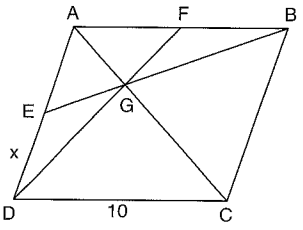
4.



ABCD eşkenar dörtgen
ABCD rhombus
$[EF] \perp [AD]$
$|EA| = 2$ br
$|BC| = 10$ br
$\Rightarrow A(ABCD) = ?$

A) 20 B) 40 C) 60 D) 80 E) 100

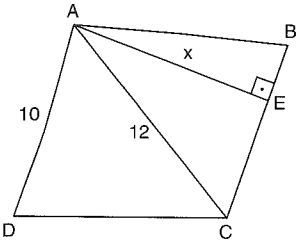
5.



ABCD eşkenar dörtgen
ABCD rhombus
$2|AF| = 3|FB|$
$|DC| = 10$ br
$\Rightarrow |ED| = x = ?$

A) 2 B) 3 C) 4 D) 6 E) 8

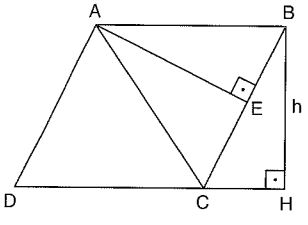
6.



ABCD eşkenar dörtgen
ABCD rhombus
$|AD| = 10$ br
$|AC| = 12$ br
$[AE] \perp [BC]$
$\Rightarrow |AE| = x = ?$

A) 1,2 B) 2,4 C) 4,8 D) 9,6 E) 10,4

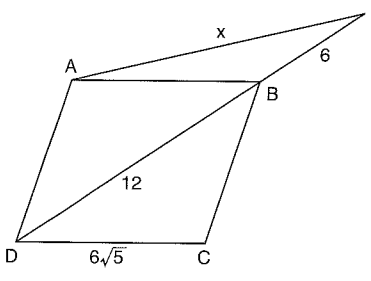
7.



ABCD eşkenar dörtgen
ABCD rhombus
$[AE] \perp [BC]$
$[BH] \perp [DH]$
$|BE| = 9$ br
$|AD| = 15$ br
$\Rightarrow |BH| = h = ?$

A) 25 B) 20 C) 15 D) 12 E) 9

8.



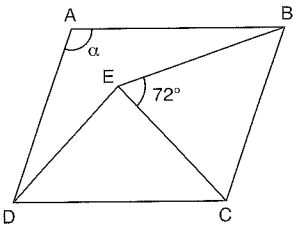
ABCD eşkenar dörtgen
ABCD rhombus
$|DB| = 12$ br
$|DC| = 6\sqrt{5}$ br
$|BE| = 6$ br
$\Rightarrow |AE| = x = ?$

A) 6 B) $6\sqrt{2}$ C) 9 D) 12 E) $12\sqrt{2}$

PUZA YAYINLARI

www.ztcprep.com

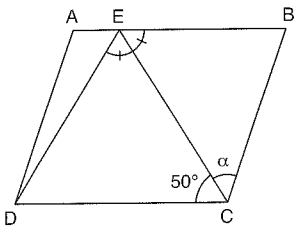
9.



ABCD eşkenar dörtgen
ABCD rhombus
EDC eşkenar üçgen
ADE equilateral triangle
$m(\widehat{BEC}) = 72°$
$\Rightarrow m(\widehat{BAD}) = \alpha = ?$

A) 54 B) 72 C) 96 D) 108 E) 144

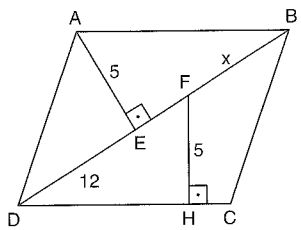
10.



ABCD eşkenar dörtgen
ABCD rhombus
$m(\widehat{ECD}) = 50°$
$m(\widehat{DEC}) = m(\widehat{CEB})$
$\Rightarrow m(\widehat{ECB}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 50 E) 70

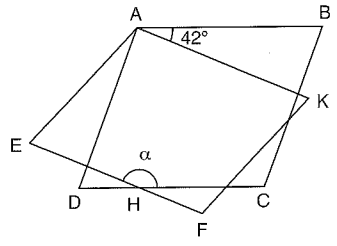
11.



ABCD eşkenar dörtgen
ABCD rhombus
$[AE] \perp [DB]$
$[FH] \perp [DC]$
$|AE| = 5$ br
$|DE| = 12$ br
$|FH| = 5$ br
$\Rightarrow |FB| = x = ?$

A) 8 B) 9 C) 10 D) 11 E) 12

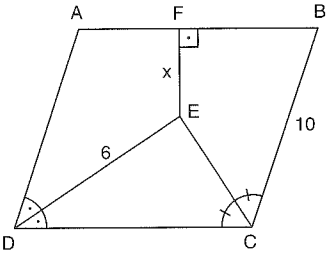
12.



ABCD ve EAKF eşkenar dörtgen
ABCD and EAKF rhombus
$m(\widehat{BAK}) = 42°$
$m(\widehat{EFK}) = 120°$
$\Rightarrow m(\widehat{EHC}) = \alpha = ?$

A) 112 B) 124 C) 128 D) 132 E) 138

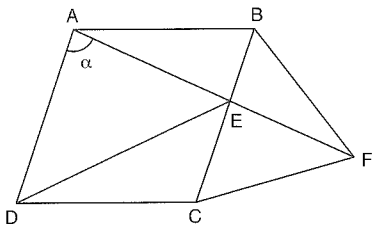
13.



ABCD eşkenar dörtgen
ABCD rhombus
$[EF] \perp [AB]$
$|BC| = 10$ br
$|DE| = 6$ br
$m(\widehat{ADE}) = m(\widehat{EDC})$
$m(\widehat{DCE}) = m(\widehat{ECB})$
$\Rightarrow |EF| = x = ?$

A) 3,6 B) 4,8 C) 5,2 D) 6,8 E) 7,2

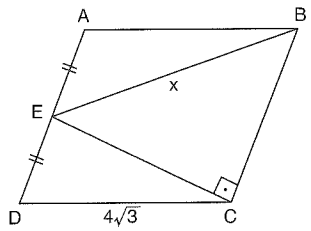
14.



ABCD eşkenar dörtgen
ABCD rhombus
BCF eşkenar üçgen
BCF equilateral triangle
$m(\widehat{DCF}) = 140°$
$\Rightarrow m(\widehat{DAF}) = \alpha = ?$

A) 70 B) 60 C) 55 D) 50 E) 45

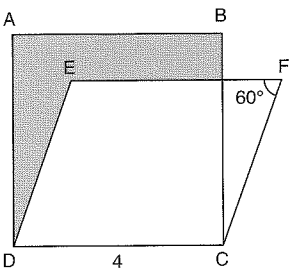
15.



ABCD eşkenar dörtgen
ABCD rhombus
$|AE| = |ED|$
$[EC] \perp [BC]$
$|DC| = 4\sqrt{3}$
$\Rightarrow |EB| = x = ?$

A) $2\sqrt{21}$ B) 9 C) $6\sqrt{2}$ D) $4\sqrt{3}$ E) 6

16.

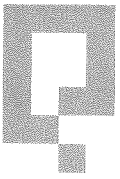


ABCD kare
ABCD square
EFCD eşkenar dörtgen
EFCD rhombus
$m(\widehat{EFC}) = 60°$
$|DC| = 4$ br
$\Rightarrow$ Taralı Alan = ?
Shaded Area = ?

A) $18 - 6\sqrt{3}$ B) $16 - 6\sqrt{3}$ C) $18 - \frac{27\sqrt{3}}{4}$ D) $9 - 3\sqrt{3}$ E) 9

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

ZTC زنگنه مجموعه موسسات



EŞKENAR DÖRTGEN RHOMBUS

Yanıt Anahtarı Answer Key

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	C	B	B	E	C	B	C	C	E	E	A	D	E	D

TEST 2

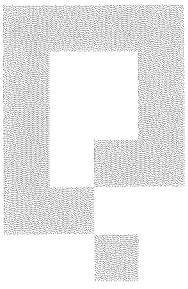
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	D	B	C	B	A	D	D	D	E	E	E	C	B	C	B

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	D	D	D	C	D	D	E	C	B	D	E	B	A	A	B

www.ztcprep.com

ZTC زنگنه
مجموعه موسسات

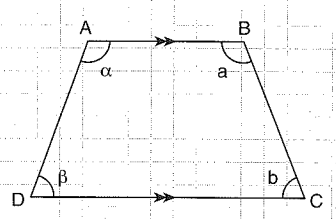


YAMUK

TRAPEZOID

www.ztcprep.com

ÖZELLİK|Property 1



ABCD yamuk

ABCD trapezoid

[AB] // [DC]

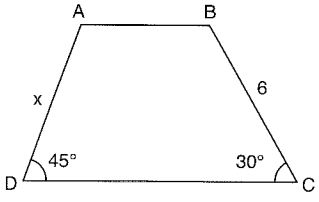
$\alpha + \beta = 180°$

$a + b = 180°$

Yamukta verilen açılar; 30°, 45°, 60°, 120°, 135° ve 150°'lik açılar ise tabana dik indirilerek pisagor ile çözüm yapılır.

If the angles given for the trapezium are the angles such as (30°, 45°, 60°, 120°, 135°, 150°), then they are solved by drawing a perpendicular bisector.

1.



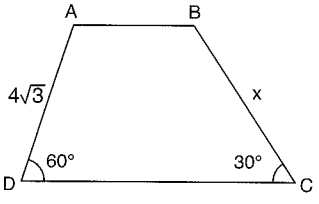
ABCD yamuk

ABCD trapezoid

$\Rightarrow x = ?$

$3\sqrt{2}$

2.



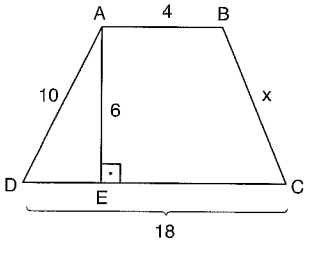
ABCD yamuk

ABCD trapezoid

$\Rightarrow x = ?$

12

3.



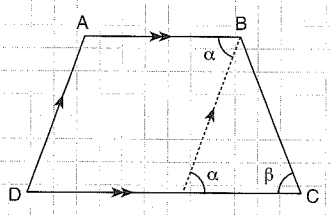
ABCD yamuk

ABCD trapezoid

$\Rightarrow x = ?$

$6\sqrt{2}$

ÖZELLİK|Property 2



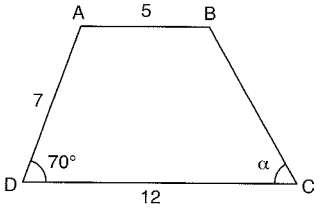
ABCD yamuk

ABCD trapezoid

Yamukta verilen açılar; 30°, 45°, 60°, 120°, 135° ve 150°'lik açılardan farklı ise şekildeki gibi kenara paralel çizilerek çözüm yapılır.

If the angles given for the trapezium are different from the angles such as (30°, 45°, 60°, 120°, 135°, 150°), then they are solved by drawing a parallel line as indicated in the figure.

1.



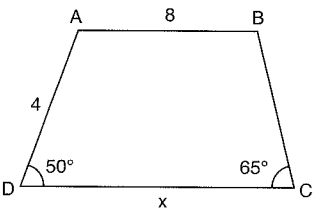
ABCD yamuk

ABCD trapezoid

$\Rightarrow \alpha = ?$

55

2.



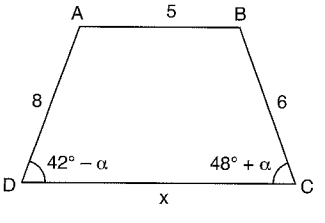
ABCD yamuk

ABCD trapezoid

$\Rightarrow x = ?$

12

3.



ABCD yamuk

ABCD trapezoid

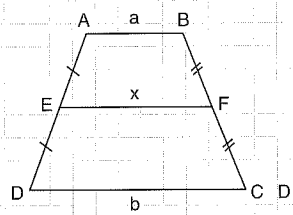
$\Rightarrow x = ?$

15

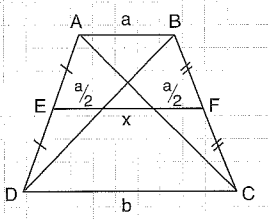
PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK|Property 3

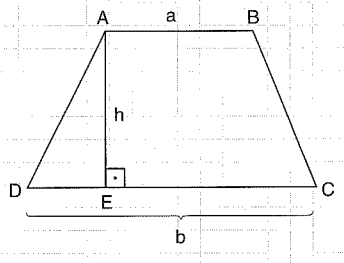


$$x = \frac{a+b}{2}$$



$$x = \frac{b-a}{2}$$

ÖZELLİK|Property 4

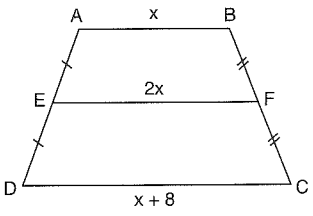


ABCD yamuk

ABCD trapezoid

$$A(ABCD) = \frac{a+b}{2} \cdot h$$

1.



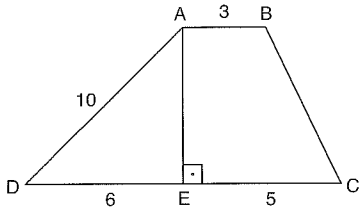
ABCD yamuk

ABCD trapezoid

⇒ x = ?

4

1.



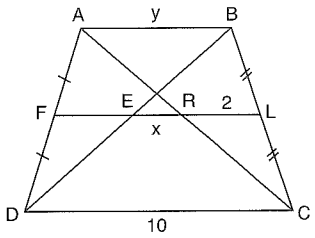
ABCD yamuk

ABCD trapezoid

⇒ A(ABCD) = ?

56

2.



ABCD yamuk

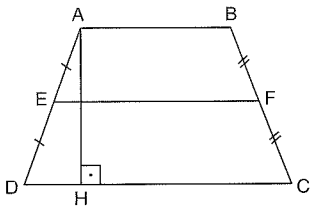
ABCD trapezoid

⇒ x = ?

⇒ y = ?

3, 4

2.



ABCD yamuk

ABCD trapezoid

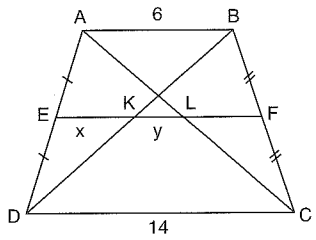
|EF| = 4 br

|AH| = 8 br

⇒ A(ABCD) = ?

32

3.



ABCD yamuk

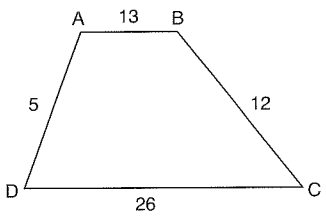
ABCD trapezoid

⇒ x = ?

⇒ y = ?

3, 4

3.



ABCD yamuk

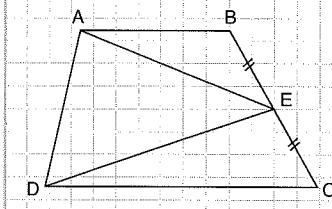
ABCD trapezoid

⇒ A(ABCD) = ?

90

PUZA YAYINLARI

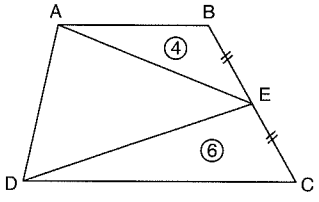
ÖZELLİK | Property 5



ABCD yamuk
ABCD trapezoid

$2A(AED) = A(ABCD)$

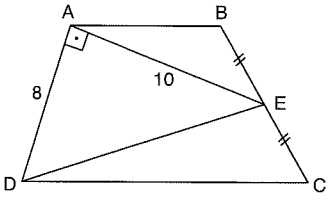
1.



ABCD yamuk
ABCD trapezoid
$\Rightarrow A(ABCD) = ?$

20

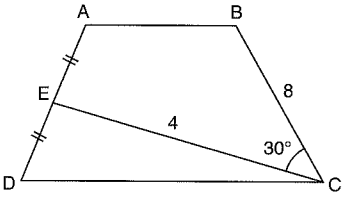
2.



ABCD yamuk
ABCD trapezoid
$\Rightarrow A(ABCD) = ?$

80

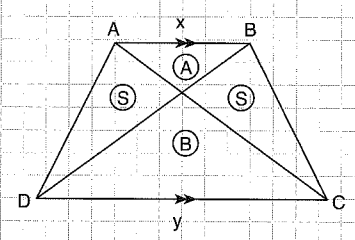
3.



ABCD yamuk
ABCD trapezoid
$\Rightarrow A(ABCD) = ?$

16

ÖZELLİK | Property 6

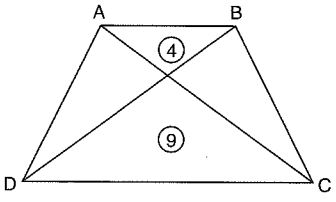


ABCD yamuk
ABCD trapezoid

$\left(\frac{x}{y}\right)^2 = \frac{A}{B}$

$S \cdot S = A \cdot B$

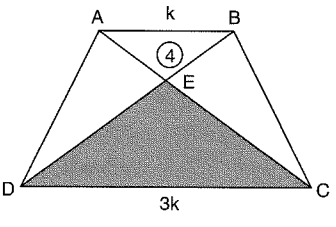
1.



ABCD yamuk
ABCD trapezoid
$\Rightarrow A(ABCD) = ?$

25

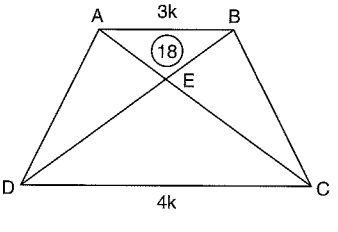
2.



ABCD yamuk
ABCD trapezoid
$\Rightarrow A(EDC) = ?$

36

3.



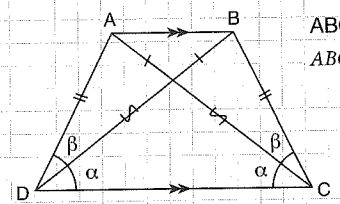
ABCD yamuk
ABCD trapezoid
$\Rightarrow A(ABCD) = ?$

98

PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK | Property 7



ABCD ikizkenar yamuk

ABCD isosceles trapezoid

$m(\widehat{A}) = m(\widehat{B})$

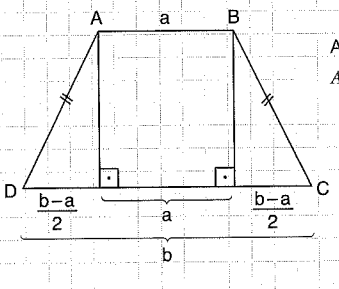
$m(\widehat{D}) = m(\widehat{C})$

$m(\widehat{A}) + m(\widehat{D}) = 180°$

$m(\widehat{B}) + m(\widehat{C}) = 180°$

$|BD| = |AC|$

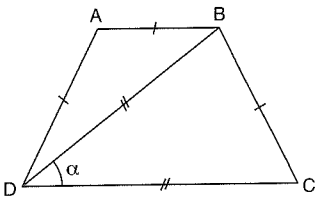
ÖZELLİK | Property 8



ABCD ikizkenar yamuk

ABCD isosceles trapezoid

1.



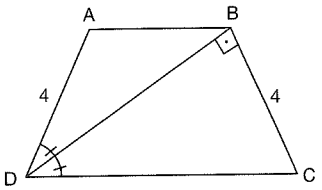
ABCD ikizkenar yamuk

ABCD isosceles trapezoid

$\Rightarrow \alpha = ?$

36

2.



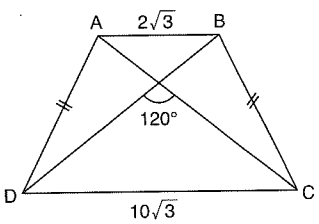
ABCD ikizkenar yamuk

ABCD isosceles trapezoid

$\Rightarrow A(DBC) = ?$

$8\sqrt{3}$

3.



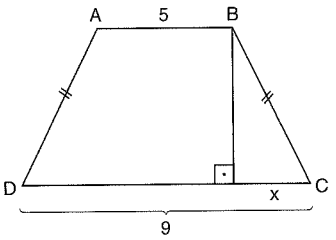
ABCD ikizkenar yamuk

ABCD isosceles trapezoid

$\Rightarrow$ A(ABCD) = ?

$36\sqrt{3}$

1.



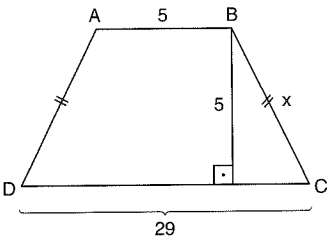
ABCD ikizkenar yamuk

ABCD isosceles trapezoid

$\Rightarrow x = ?$

2

2.



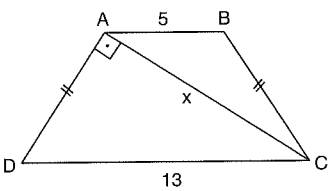
ABCD ikizkenar yamuk

ABCD isosceles trapezoid

$\Rightarrow x = ?$

13

3.



ABCD ikizkenar yamuk

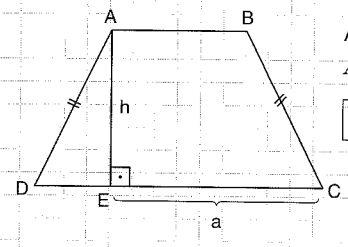
ABCD isosceles trapezoid

$\Rightarrow x = ?$

$3\sqrt{13}$

PUZA YAYINLARI

ÖZELLİK | Property 9

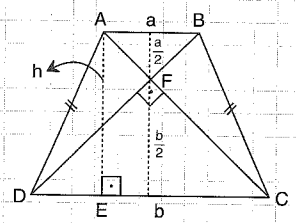


ABCD ikizkenar yamuk

ABCD isosceles trapezoid

$A(ABCD) = a \cdot h$

ÖZELLİK | Property 10



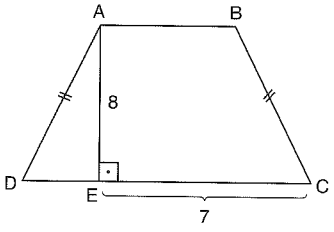
ABCD ikizkenar yamuk

ABCD isosceles trapezoid

$h = \frac{a+b}{2}$

$A(ABCD) = \left(\frac{a+b}{2}\right)^2 = h^2$

1.



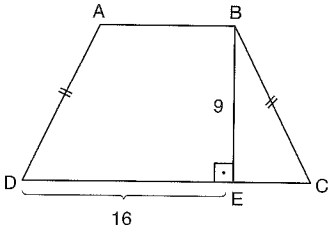
ABCD ikizkenar yamuk

ABCD isosceles trapezoid

⇒ A(ABCD) = ?

56

2.



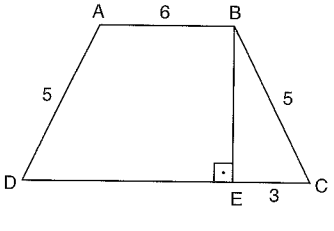
ABCD ikizkenar yamuk

ABCD isosceles trapezoid

⇒ A(ABCD) = ?

144

3.



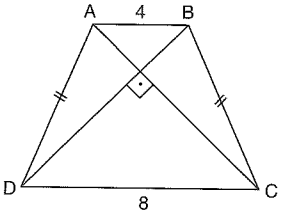
ABCD ikizkenar yamuk

ABCD isosceles trapezoid

⇒ A(ABCD) = ?

36

1.



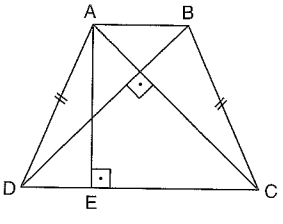
ABCD ikizkenar yamuk

ABCD isosceles trapezoid

⇒ A(ABCD) = ?

36

2.



ABCD ikizkenar yamuk

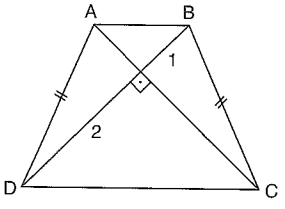
ABCD isosceles trapezoid

|AE| = 4 br

⇒ A(ABCD) = ?

16

3.



ABCD ikizkenar yamuk

ABCD isosceles trapezoid

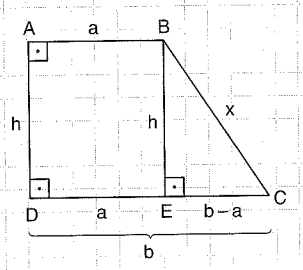
⇒ A(ABCD) = ?

$\frac{9}{2}$

PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK|Property 11

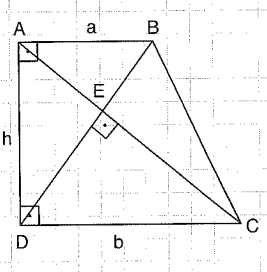


ABCD dik yamuk

ABCD right trapezoid

$h^2 + (b - a)^2 = x^2$

ÖZELLİK|Property 12

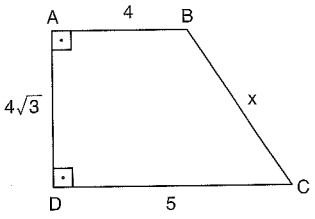


ABCD dik yamuk

ABCD right trapezoid

$h^2 = a \cdot b$

1.



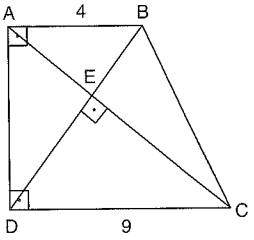
ABCD dik yamuk

ABCD right trapezoid

$\Rightarrow x = ?$

7

1.



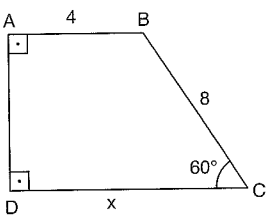
ABCD dik yamuk

ABCD right trapezoid

$\Rightarrow A(ABCD) = ?$

39

2.



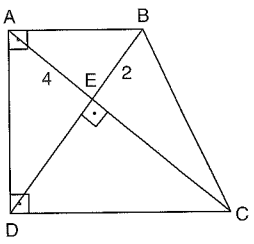
ABCD dik yamuk

ABCD right trapezoid

$\Rightarrow x = ?$

8

2.



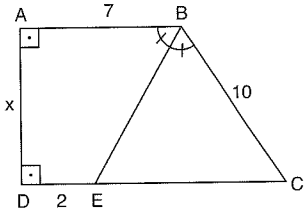
ABCD dik yamuk

ABCD right trapezoid

$\Rightarrow A(ABCD) = ?$

100

3.



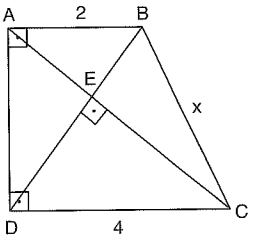
ABCD dik yamuk

ABCD right trapezoid

$\Rightarrow x = ?$

$5\sqrt{3}$

3.



ABCD dik yamuk

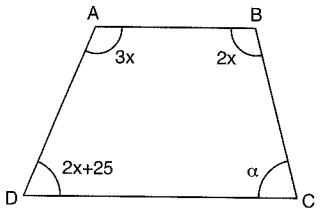
ABCD right trapezoid

$\Rightarrow x = ?$

$2\sqrt{3}$

PUZA YAYINLARI

1.



ABCD yamuk

ABCD trapezoid

$m(\widehat{ABC}) = 2x$

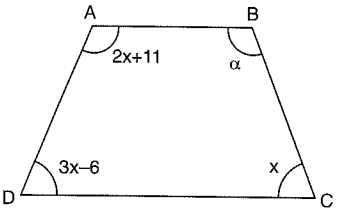
$m(\widehat{BAD}) = 3x$

$m(\widehat{ADC}) = 2x + 25$

$\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 31 B) 62 C) 98 D) 118 E) 149

2.



ABCD yamuk

ABCD trapezoid

$m(\widehat{BAD}) = 2x + 11$

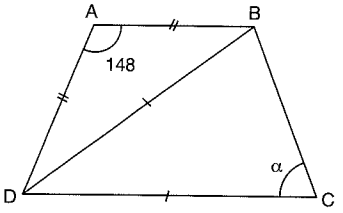
$m(\widehat{ADC}) = 3x - 6$

$m(\widehat{DCB}) = x$

$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 35 B) 70 C) 81 D) 99 E) 145

3.



ABCD yamuk

ABCD trapezoid

$|DB| = |DC|$

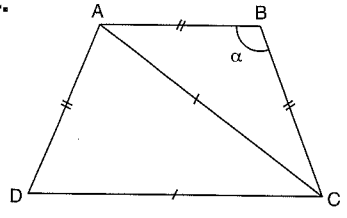
$|AB| = |AD|$

$m(\widehat{DAB}) = 148°$

$\Rightarrow m(\widehat{DCB}) = \alpha = ?$

A) 16 B) 81 C) 82 D) 91 E) 148

4.



ABCD yamuk

ABCD trapezoid

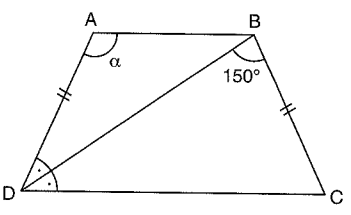
$|AB| = |BC| = |AD|$

$|AC| = |CD|$

$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 36 B) 54 C) 72 D) 108 E) 144

5.



ABCD yamuk

ABCD trapezoid

$|AD| = |BC|$

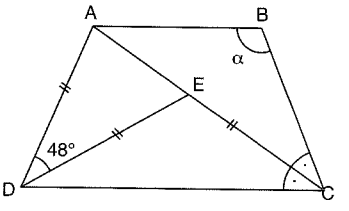
$m(\widehat{ADB}) = m(\widehat{BDC})$

$m(\widehat{DBC}) = 150°$

$\Rightarrow m(\widehat{BAD}) = \alpha = ?$

A) 160 B) 150 C) 140 D) 130 E) 120

6.



ABCD yamuk

ABCD trapezoid

$m(\widehat{DCA}) = m(\widehat{ACB})$

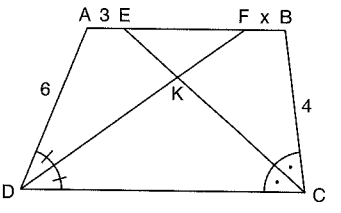
$|AD| = |DE| = |EC|$

$m(\widehat{ADE}) = 48°$

$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 66 B) 81 C) 92 D) 114 E) 122

7.



ABCD yamuk

ABCD trapezoid

$m(\widehat{DCE}) = m(\widehat{ECB})$

$m(\widehat{ADF}) = m(\widehat{FDC})$

$|AD| = 6$ br

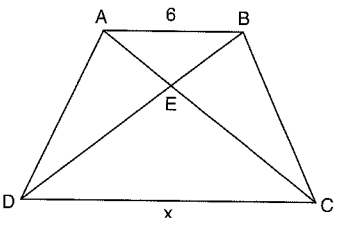
$|BC| = 4$ br

$|AE| = 3$ br

$\Rightarrow |FB| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

8.



ABCD yamuk

ABCD trapezoid

$4|EB| = 3|DE|$

$|AB| = 6$ br

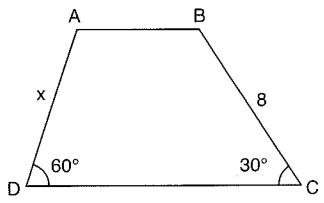
$\Rightarrow |DC| = x = ?$

A) 4 B) 6 C) 8 D) 9 E) 12

PUZA YAYINLARI

www.ztcprep.com

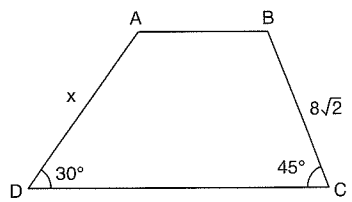
9.



ABCD yamuk
ABCD trapezoid
$m(\widehat{ADC}) = 60°$
$m(\widehat{BCD}) = 30°$
$|BC| = 8$ br
$\Rightarrow |AD| = x = ?$

A) $\frac{4\sqrt{9}}{3}$ B) $2\sqrt{3}$ C) 4 D) $\frac{8\sqrt{3}}{3}$ E) $8\sqrt{3}$

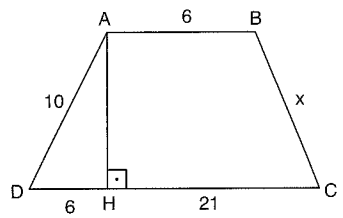
10.



ABCD yamuk
ABCD trapezoid
$m(\widehat{ADC}) = 30°$
$m(\widehat{BCD}) = 45°$
$|BC| = 8\sqrt{2}$ br
$\Rightarrow |AD| = x = ?$

A) 4 B) $4\sqrt{3}$ C) $8\sqrt{3}$ D) $8\sqrt{6}$ E) 16

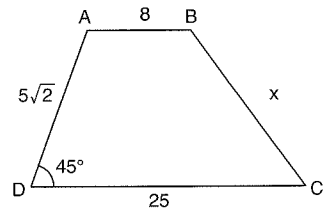
11.



ABCD yamuk
ABCD trapezoid
$[AH] \perp [DC]$
$|HC| = 21$ br
$|AB| = 6$ br
$|AD| = 10$ br
$|DH| = 6$ br
$\Rightarrow |BC| = x = ?$

A) 17 B) 15 C) 13 D) 10 E) 8

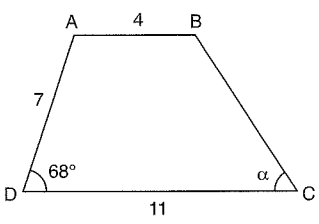
12.



ABCD yamuk
ABCD trapezoid
$m(\widehat{ADC}) = 45°$
$|AD| = 5\sqrt{2}$ br
$|AB| = 8$ br
$|DC| = 25$ br
$\Rightarrow |BC| = x = ?$

A) 17 B) 15 C) 13 D) 10 E) 5

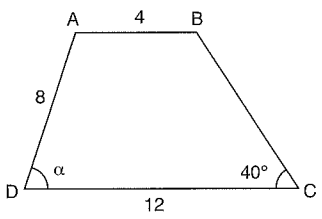
13.



ABCD yamuk
ABCD trapezoid
$|AB| = 4$ br
$|AD| = 7$ br
$|DC| = 11$ br
$m(\widehat{ADC}) = 68°$
$\Rightarrow m(\widehat{DCB}) = \alpha = ?$

A) 34 B) 56 C) 68 D) 72 E) 108

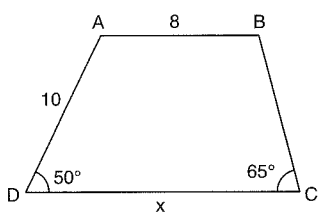
14.



ABCD yamuk
ABCD trapezoid
$|AB| = 4$ br
$|AD| = 8$ br
$|DC| = 12$ br
$m(\widehat{BCD}) = 40°$
$\Rightarrow m(\widehat{ADC}) = \alpha = ?$

A) 40 B) 60 C) 80 D) 100 E) 120

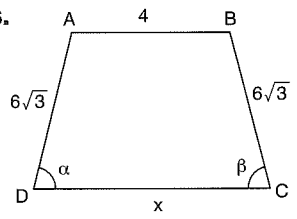
15.



ABCD yamuk
ABCD trapezoid
$m(\widehat{ADC}) = 50°$
$m(\widehat{BCD}) = 65°$
$|AB| = 8$ br
$|AD| = 10$ br
$\Rightarrow |DC| = x = ?$

A) 8 B) 10 C) 12 D) 14 E) 18

16.

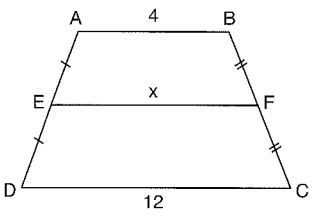


ABCD ikizkenar yamuk
ABCD isosceles trapezoid
$\alpha + \beta = 120°$
$|AD| = |BC| = 6\sqrt{3}$
$|AB| = 4$ br
$\Rightarrow |DC| = x = ?$

A) $4\sqrt{3}$ B) $6\sqrt{3}$ C) $10\sqrt{3}$ D) $4 + 6\sqrt{3}$ E) 24

PUZA YAYINLARI

1.



ABCD yamuk

ABCD trapezoid

$|AE| = |ED|$

$|BF| = |FC|$

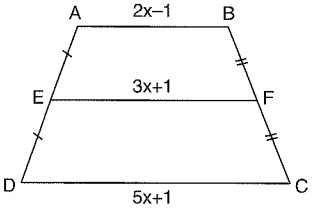
$|AB| = 4$ br

$|DC| = 12$ br

$\Rightarrow |EF| = x = ?$

A) 6 B) 7 C) 8 D) 9 E) 10

2.



ABCD yamuk

ABCD trapezoid

$|AE| = |ED|$

$|BF| = |FC|$

$|AB| = 2x - 1$

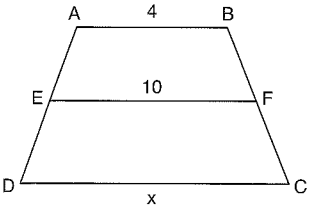
$|EF| = 3x + 1$

$|DC| = 5x + 1$

$\Rightarrow |EF| = ?$

A) 2 B) 3 C) 6 D) 7 E) 10

3.



ABCD yamuk

ABCD trapezoid

$[AB] // [EF]$

$|EA| = 2|ED|$

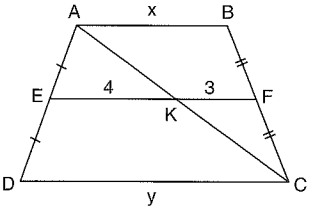
$|AB| = 4$ br

$|EF| = 10$ br

$\Rightarrow |DC| = x = ?$

A) 19 B) 17 C) 15 D) 14 E) 13

4.



ABCD yamuk

ABCD trapezoid

$|AE| = |ED|$

$|BF| = |FC|$

$|EK| = 4$ br

$|KF| = 3$ br

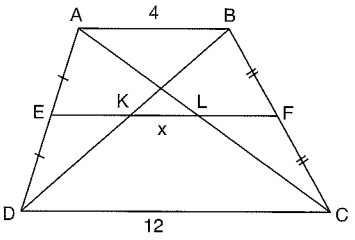
$|AB| = x$

$|DC| = y$

$\Rightarrow y - x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

5.



ABCD yamuk

ABCD trapezoid

$|AE| = |ED|$

$|BF| = |FC|$

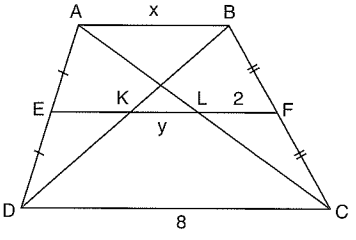
$|AB| = 4$ br

$|DC| = 12$ br

$\Rightarrow |KL| = x = ?$

A) 2 B) 3 C) 4 D) 6 E) 8

6.



ABCD yamuk

ABCD trapezoid

$|AE| = |ED|$

$|BF| = |FC|$

$|AB| = x$

$|KL| = y$

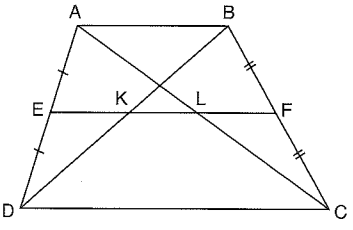
$|LF| = 2$ br

$|DC| = 8$ br

$\Rightarrow x + y = ?$

A) 4 B) 6 C) 8 D) 10 E) 12

7.



ABCD yamuk

ABCD trapezoid

$|AE| = |ED|$

$|BF| = |FC|$

$|EK| = 2x - 1$

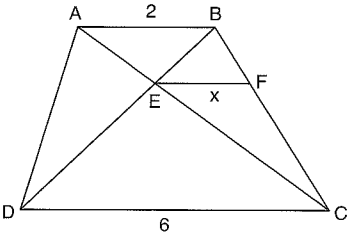
$|KL| = 3x$

$|LF| = x + 4$

$\Rightarrow |AB| + |DC| = ?$

A) 66 B) 38 C) 32 D) 28 E) 14

8.



ABCD yamuk

ABCD trapezoid

$[EF] // [AB]$

$|AB| = 2$ br

$|DC| = 6$ br

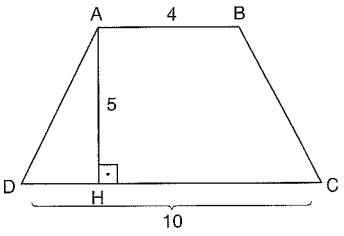
$\Rightarrow |EF| = x = ?$

A) $\frac{1}{2}$ B) 1 C) $\frac{3}{2}$ D) 2 E) $\frac{5}{2}$

PUZA YAYINLARI

www.ztcprep.com

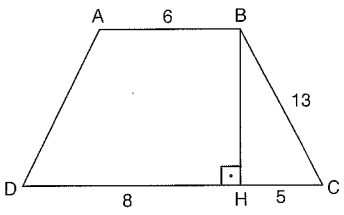
9.



ABCD yamuk
ABCD trapezoid
[AH] ⊥ [DC]
|AB| = 4 br
|AH| = 5 br
|DC| = 10 br
⇒ A(ABCD) = ?

A) 60 B) 45 C) 35 D) 20 E) 15

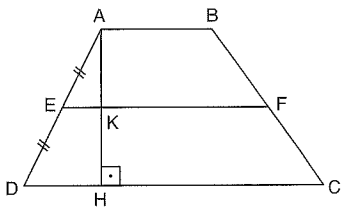
10.



ABCD yamuk
ABCD trapezoid
[BH] ⊥ [DC]
|AB| = 6 br
|DH| = 8 br
|HC| = 5 br
|BC| = 13 br
⇒ A(ABCD) = ?

A) 144 B) 114 C) 96 D) 84 E) 72

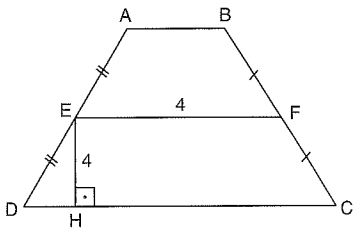
11.



ABCD yamuk
ABCD trapezoid
[AH] ⊥ [DC]
|AE| = |ED|
[EF] // [DC]
|AK| = 8 br
|EF| = 6 br
⇒ A(ABCD) = ?

A) 24 B) 36 C) 48 D) 72 E) 96

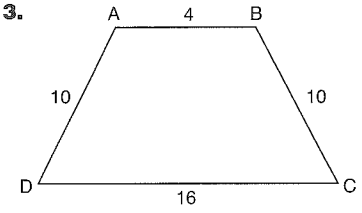
12.



ABCD yamuk
ABCD trapezoid
|AE| = |ED|
|BF| = |FC|
[EH] ⊥ [DC]
|EF| = |EH| = 4 br
⇒ A(ABCD) = ?

A) 8 B) 16 C) 32 D) 64 E) 128

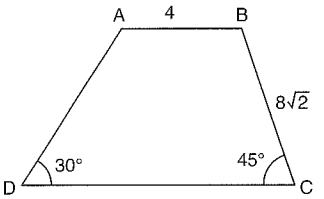
13.



ABCD ikizkenar yamuk
ABCD isosceles trapezoid
|AB| = 4 br
|AD| = |BC| = 10 br
|DC| = 16 br
⇒ A(ABCD) = ?

A) 144 B) 124 C) 118 D) 100 E) 80

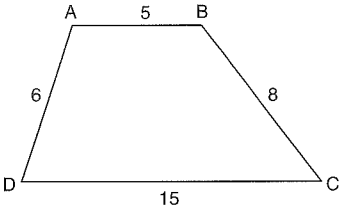
14.



ABCD yamuk
ABCD trapezoid
m(ADC) = 30°
m(BCD) = 45°
|AB| = 4 br
|BC| = 8√2 br
⇒ A(ABCD) = ?

A) $32\sqrt{3}$ B) 64 C) 96
D) $64+32\sqrt{3}$ E) $128+64\sqrt{3}$

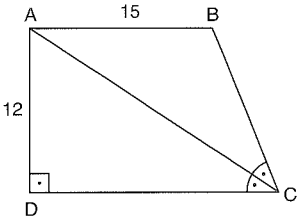
15.



ABCD yamuk
ABCD trapezoid
|AB| = 5 br
|AD| = 6 br
|BC| = 8 br
|DC| = 15 br
⇒ A(ABCD) = ?

A) 96 B) 72 C) 48 D) 36 E) 24

16.

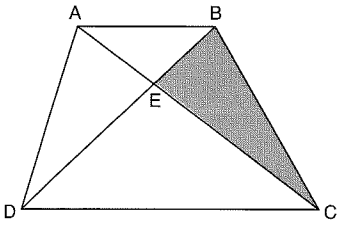


ABCD dik yamuk
ABCD right trapezoid
[AD] ⊥ [DC]
[AC] açıortay
[AC] bisector
|AD| = 12 br
|AB| = 15 br
⇒ A(ABCD) = ?

A) 90 B) 144 C) 180 D) 234 E) 288

PUZA YAYINLARI

1.



ABCD yamuk

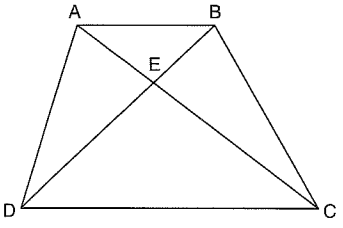
ABCD trapezoid

$A(AED) = 4\ br^2$

$\Rightarrow A(EBC) = ?$

A) 2 B) 4 C) 6 D) 8 E) 16

2.



ABCD yamuk

ABCD trapezoid

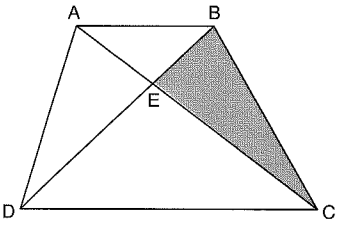
$A(AEB) = 2\,br^2$

$A(EDC) = 8\,br^2$

$\Rightarrow A(ABCD) = ?$

A) 4 B) 12 C) 14 D) 18 E) 32

3.



ABCD yamuk

ABCD trapezoid

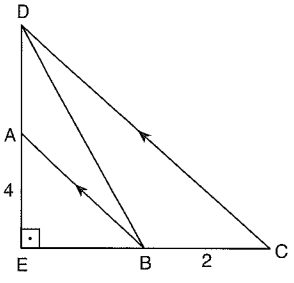
$A(EBC) = 12\,br^2$

$|DC| = 3|AB|$

$\Rightarrow A(ABCD) = ?$

A) 40 B) 52 C) 64 D) 78 E) 96

4.



ABCD yamuk

ABCD trapezoid

$[DE] \perp [EC]$

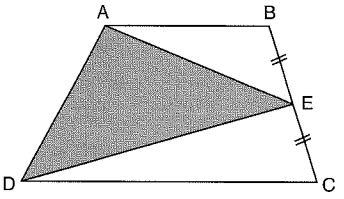
$|AE| = 4\ br$

$|BC| = 2\ br$

$\Rightarrow A(ABD) = ?$

A) 4 B) 6 C) 8 D) 12 E) 16

5.



ABCD yamuk

ABCD trapezoid

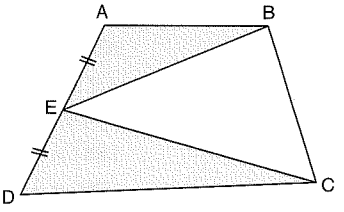
$|BE| = |EC|$

$A(ADE) = 20\ br^2$

$\Rightarrow A(ABCD) = ?$

A) 20 B) 30 C) 40 D) 60 E) 80

6.



ABCD yamuk

ABCD trapezoid

$|AE| = |ED|$

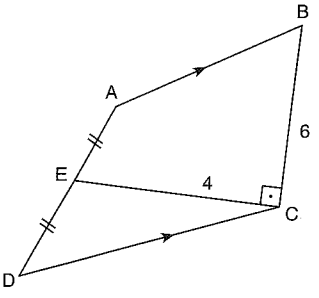
$A(AEB) = 4\ br^2$

$A(ECD) = 6\ br^2$

$\Rightarrow A(ABCD) = ?$

A) 10 B) 15 C) 20 D) 30 E) 40

7.



ABCD yamuk

ABCD trapezoid

$[EC] \perp [BC]$

$|AE| = |ED|$

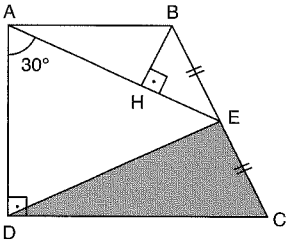
$|EC| = 4\ br$

$|BC| = 6\ br$

$\Rightarrow A(ABCD) = ?$

A) 12 B) 24 C) 32 D) 48 E) 56

8.



ABCD dik yamuk

ABCD right trapezoid

$|BE| = |EC|$

$[AD] \perp [DC]$

$[BH] \perp [AE]$

$m(\widehat{DAE}) = 30°$

$|AD| = 8\ br$

$|BH| = 3\ br$

$|AE| = 4\ br$

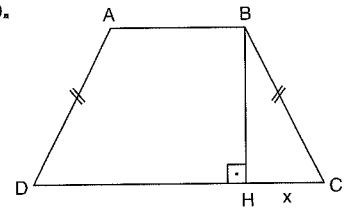
$\Rightarrow A(EDC) = ?$

A) 2 B) 6 C) 8 D) 10 E) 12

PUZA YAYINLARI

www.ztcprep.com

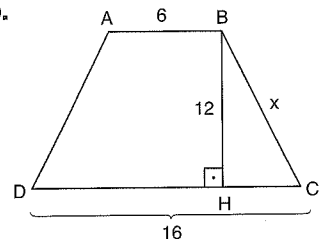
9.



ABCD ikizkenar yamuk
ABCD isosceles trapezoid
$|AD| = |BC|$
$[BH] \perp [DC]$
$|AB| = 4$ br
$|DC| = 10$ br
$\Rightarrow |HC| = x = ?$

A) 8 B) 6 C) 5 D) 4 E) 3

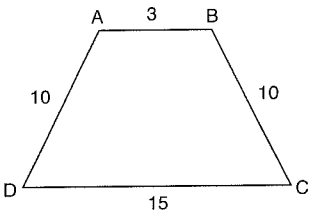
10.



ABCD ikizkenar yamuk
ABCD isosceles trapezoid
$|AD| = |BC|$
$[BH] \perp [DC]$
$|AB| = 6$ br
$|BH| = 12$ br
$|DC| = 16$ br
$\Rightarrow |BC| = x = ?$

A) 20 B) 15 C) $12\sqrt{2}$ D) 13 E) 12

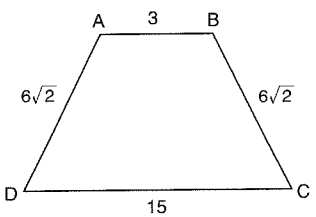
11.



ABCD ikizkenar yamuk
ABCD isosceles trapezoid
$|AD| = |BC| = 10$ br
$|AB| = 3$ br
$|DC| = 15$ br
$\Rightarrow A(ABCD) = ?$

A) 48 B) 64 C) 72 D) 78 E) 96

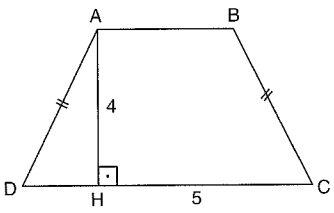
12.



ABCD ikizkenar yamuk
ABCD isosceles trapezoid
$|AD| = |BC| = 6\sqrt{2}$ br
$|AB| = 3$ br
$|DC| = 15$ br
$\Rightarrow A(ABCD) = ?$

A) 48 B) 54 C) 64
D) $54\sqrt{2}$ E) $108\sqrt{2}$

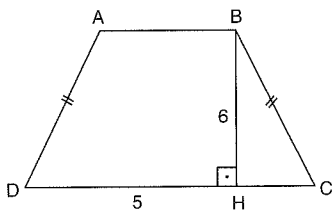
13.



ABCD ikizkenar yamuk
ABCD isosceles trapezoid
$|AD| = |BC|$
$[AH] \perp [DC]$
$|AH| = 4$ br
$|HC| = 5$ br
$\Rightarrow A(ABCD) = ?$

A) 40 B) 30 C) 20 D) 15 E) 10

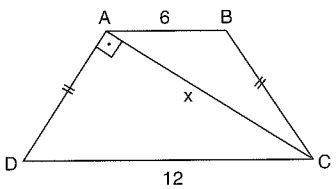
14.



ABCD ikizkenar yamuk
ABCD isosceles trapezoid
$|AD| = |BC|$
$[BH] \perp [DC]$
$|BH| = 6$ br
$|DH| = 5$ br
$\Rightarrow A(ABCD) = ?$

A) 60 B) 45 C) 40 D) 30 E) 15

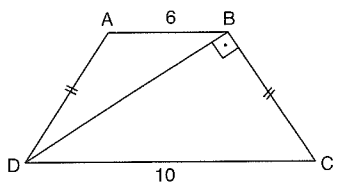
15.



ABCD ikizkenar yamuk
ABCD isosceles trapezoid
$|AD| = |BC|$
$[AC] \perp [AD]$
$|AB| = 6$ br
$|DC| = 12$ br
$\Rightarrow |AC| = x = ?$

A) 3 B) $3\sqrt{3}$ C) 6 D) $6\sqrt{3}$ E) 9

16.



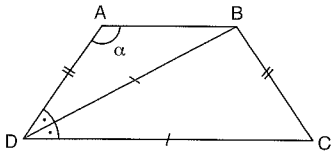
ABCD ikizkenar yamuk
ABCD isosceles trapezoid
$|AD| = |BC|$
$[BD] \perp [BC]$
$|AB| = 6$ br
$|DC| = 10$ br
$\Rightarrow A(ABCD) = ?$

A) 8 B) 16 C) 32 D) 64 E) 76

PUZA YAYINLARI

www.ztcprep.com

1.



ABCD ikizkenar yamuk

ABCD isosceles trapezoid

[DB] açıortay

[DB] bisector

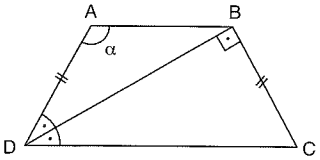
$|AD| = |BC|$

$|BD| = |DC|$

$\Rightarrow m(\widehat{BAD}) = \alpha = ?$

A) 36 B) 54 C) 72 D) 108 E) 144

2.



ABCD ikizkenar yamuk

ABCD isosceles trapezoid

[DB] açıortay

[DB] bisector

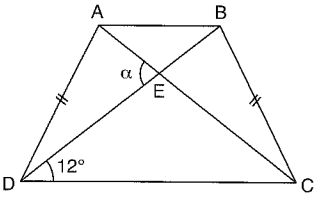
$|AD| = |BC|$

$[BD] \perp [BC]$

$\Rightarrow m(\widehat{BAD}) = \alpha = ?$

A) 150 B) 135 C) 120 D) 105 E) 90

3.



ABCD ikizkenar yamuk

ABCD isosceles trapezoid

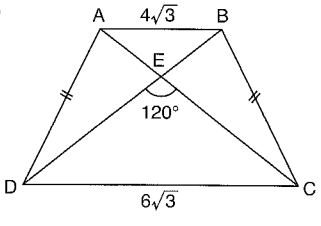
$|AD| = |BC|$

$m(\widehat{BDC}) = 12°$

$\Rightarrow m(\widehat{AED}) = \alpha = ?$

A) 12 B) 18 C) 24 D) 36 E) 48

4.



ABCD ikizkenar yamuk

ABCD isosceles trapezoid

$|AD| = |BC|$

$m(\widehat{DEC}) = 120°$

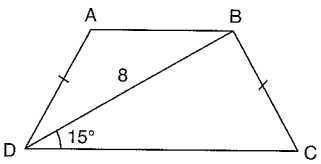
$|AB| = 4\sqrt{3}$ br

$|DC| = 6\sqrt{3}$ br

$\Rightarrow |AC| = ?$

A) 10 B) 12 C) 15 D) 18 E) 20

5.



ABCD ikizkenar yamuk

ABCD isosceles trapezoid

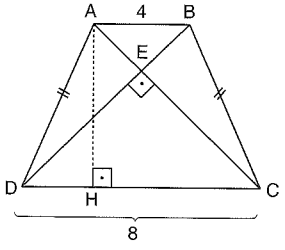
$m(\widehat{BDC}) = 15°$

$|BD| = 8$ br

$\Rightarrow A(ABCD) = ?$

A) 16 B) $16\sqrt{3}$ C) 32 D) $32\sqrt{3}$ E) 64

6.



ABCD ikizkenar yamuk

ABCD isosceles trapezoid

$|AD| = |BC|$

$[AC] \perp [BD]$

$[AH] \perp [DC]$

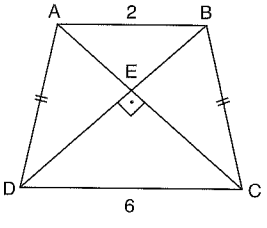
$|AB| = 4$ br

$|DC| = 8$ br

$\Rightarrow |AH| = ?$

A) 4 B) 6 C) 8 D) 12 E) 16

7.



ABCD ikizkenar yamuk

ABCD isosceles trapezoid

$|AD| = |BC|$

$[AC] \perp [BD]$

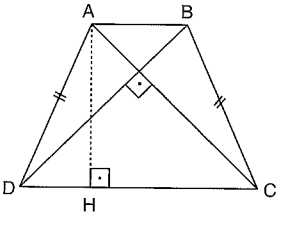
$|AB| = 2$ br

$|DC| = 6$ br

$\Rightarrow A(ABCD) = ?$

A) 4 B) 6 C) 8 D) 12 E) 16

8.



ABCD ikizkenar yamuk

ABCD isosceles trapezoid

$|AD| = |BC|$

$[AC] \perp [BD]$

$[AH] \perp [DC]$

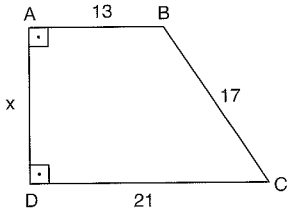
$|AH| = 5$ br

$\Rightarrow A(ABCD) = ?$

A) 5 B) $5\sqrt{3}$ C) 10 D) $10\sqrt{3}$ E) 25

PUZA YAYINLARI

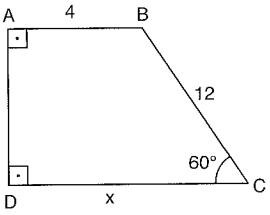
9.



ABCD dik yamuk
ABCD right trapezoid
$[AD] \perp [DC]$
$|AB| = 13$ br
$|BC| = 17$ br
$|DC| = 21$ br
$\Rightarrow |AD| = x = ?$

A) 8 B) $6\sqrt{2}$ C) $6\sqrt{3}$ D) 12 E) 15

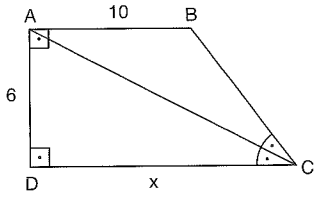
10.



ABCD dik yamuk
ABCD right trapezoid
$m(\widehat{BCD}) = 60°$
$[AD] \perp [DC]$
$|AB| = 4$ br
$|BC| = 12$ br
$\Rightarrow |DC| = x = ?$

A) 4 B) 6 C) $6\sqrt{3}$
D) 10 E) $4+6\sqrt{3}$

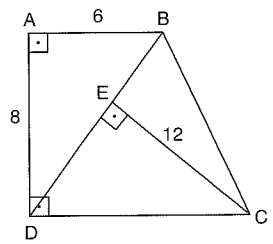
11.



ABCD dik yamuk
ABCD right trapezoid
$[AD] \perp [DC]$
$|AB| = 10$ br
$|AD| = 6$ br
$m(\widehat{DCA}) = m(\widehat{ACB})$
$\Rightarrow |DC| = x = ?$

A) 18 B) 16 C) 14 D) 12 E) 10

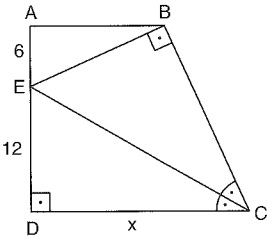
12.



ABCD dik yamuk
ABCD right trapezoid
$[AD] \perp [DC]$
$[CE] \perp [BD]$
$|AB| = 6$ br
$|AD| = 8$ br
$|CE| = 12$ br
$\Rightarrow A(ABCD) = ?$

A) 80 B) 84 C) 104 D) 120 E) 168

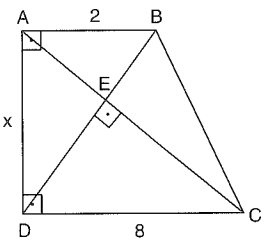
13.



ABCD dik yamuk
ABCD right trapezoid
$[AD] \perp [DC]$
$[EB] \perp [BC]$
$m(\widehat{DCE}) = m(\widehat{ECB})$
$|AE| = 6$ br
$|ED| = 12$ br
$\Rightarrow |DC| = x = ?$

A) 4 B) 6 C) $6\sqrt{3}$ D) 12 E) $12\sqrt{3}$

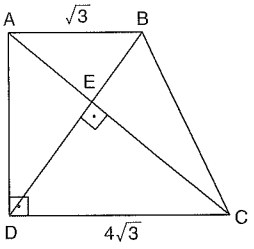
14.



ABCD dik yamuk
ABCD right trapezoid
$[AD] \perp [DC]$
$[BD] \perp [AC]$
$|AB| = 2$ br
$|DC| = 8$ br
$\Rightarrow |AD| = x = ?$

A) 4 B) 5 C) 6 D) 8 E) 16

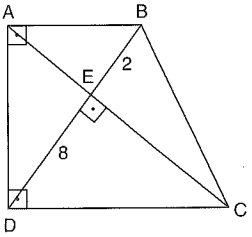
15.



ABCD dik yamuk
ABCD right trapezoid
$[AD] \perp [DC]$
$[BD] \perp [AC]$
$|AB| = \sqrt{3}$ br
$|DC| = 4\sqrt{3}$ br
$\Rightarrow A(ABCD) = ?$

A) $2\sqrt{3}$ B) $5\sqrt{3}$ C) $\frac{15}{2}$ D) $\frac{15\sqrt{3}}{2}$ E) 15

16.



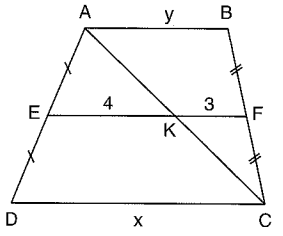
ABCD dik yamuk
ABCD right trapezoid
$[AD] \perp [DC]$
$[BD] \perp [AC]$
$|BE| = 2$ br
$|DE| = 8$ br
$\Rightarrow A(ABCD) = ?$

A) 120 B) 100 C) 90 D) 80 E) 40

PUZA YAYINLARI

www.ztcprep.com

1.



ABCD yamuk

ABCD trapezoid

$|BF| = |FC|$

$|AE| = |ED|$

$|EK| = 4$ br

$|KF| = 3$ br

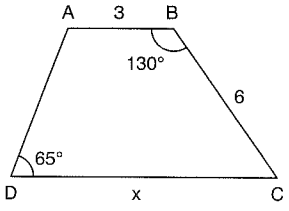
$|AB| = y$

$|DC| = x$

$\Rightarrow x - y = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

2.



ABCD yamuk

ABCD trapezoid

$m(\widehat{ABC}) = 130°$

$m(\widehat{ADC}) = 65°$

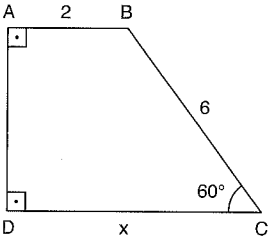
$|AB| = 3$ br

$|BC| = 6$ br

$\Rightarrow |DC| = x = ?$

A) 5 B) 6 C) 7 D) 9 E) 12

3.



ABCD dik yamuk

ABCD right trapezoid

$m(\widehat{BCD}) = 60°$

$[AD] \perp [DC]$

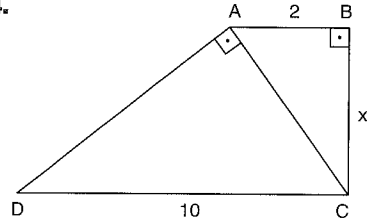
$|AB| = 2$ br

$|BC| = 6$ br

$\Rightarrow |DC| = x = ?$

A) 3 B) 4 C) 5 D) 6 E) 8

4.



ABCD dik yamuk

ABCD right trapezoid

$|DC| = 10$ br

$|AB| = 2$ br

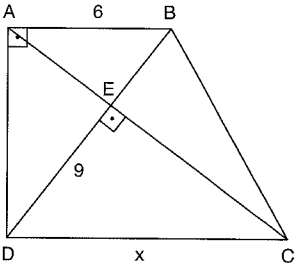
$[DA] \perp [AC]$

$[AB] \perp [BC]$

$\Rightarrow |BC| = x = ?$

A) 2 B) 4 C) $4\sqrt{3}$ D) $4\sqrt{5}$ E) 8

5.



ABCD dik yamuk

ABCD right trapezoid

$[DA] \perp [AB]$

$[CE] \perp [BD]$

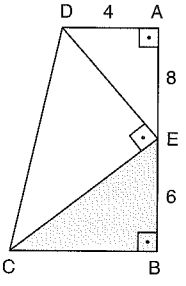
$|AB| = 6$ br

$|ED| = 9$ br

$\Rightarrow x = ?$

A) 10 B) 12 C) 15 D) 18 E) 20

6.



ABCD dik yamuk

ABCD right trapezoid

$[DA] \perp [AB]$

$[DE] \perp [EC]$

$|AD| = 4$ br

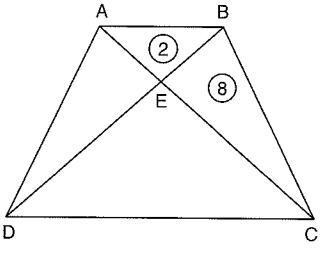
$|EB| = 6$ br

$|AE| = 8$ br

$\Rightarrow A(EBC) = ?$

A) 9 B) 12 C) 24 D) 32 E) 36

7.



ABCD yamuk

ABCD trapezoid

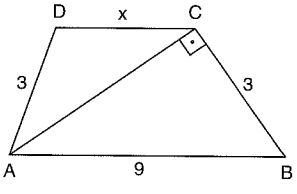
$A(AEB) = 2$ br^2

$A(EBC) = 8$ br^2

$\Rightarrow A(ABCD) = ?$

A) 40 B) 42 C) 48 D) 50 E) 60

8.



ABCD ikizkenar yamuk

ABCD isosceles trapezoid

$[AC] \perp [BC]$

$|AD| = |BC| = 3$ br

$|AB| = 9$ br

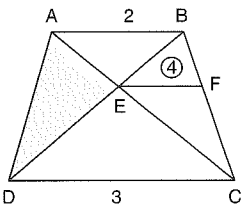
$\Rightarrow |CD| = x = ?$

A) 5 B) 6 C) 7 D) 8 E) 9

PUZA YAYINLARI

www.ztcprep.com

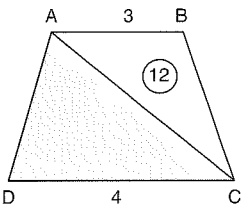
9.



ABCD yamuk
ABCD trapezoid
$|AB| = 2$ br
$|DC| = 3$ br
$A(BEF) = 4$ br^2
$\Rightarrow A(AED) = ?$

A) 6 B) 8 C) 10 D) 12 E) 16

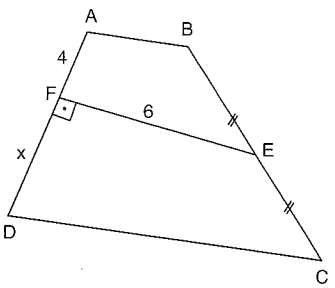
10.



ABCD yamuk
ABCD trapezoid
$|AB| = 3$ br
$|DC| = 4$ br
$A(ABC) = 12$ br^2
$\Rightarrow A(ADC) = ?$

A) 20 B) 16 C) 14 D) 12 E) 8

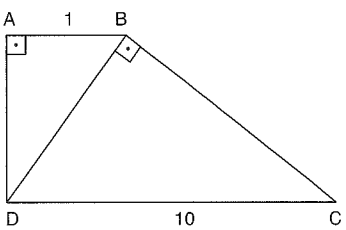
11.



ABCD yamuk
ABCD trapezoid
$|BE| = |EC|$
$[EF] \perp [FD]$
$A(ABCD) = 54$ br^2
$\Rightarrow |FD| = x = ?$

A) 3 B) 4 C) 5 D) 6 E) 7

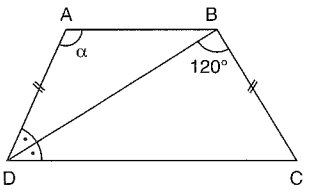
12.



ABCD dik yamuk
ABCD right trapezoid
$[DA] \perp [AB]$
$[DB] \perp [BC]$
$|AB| = 1$ br
$|DC| = 10$ br
$\Rightarrow A(ABCD) = ?$

A) $\frac{11}{2}$ B) $\frac{33}{2}$ C) 20 D) 33 E) 66

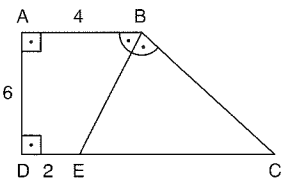
13.



ABCD ikizkenar yamuk
ABCD isosceles trapezoid
$|AD| = |BC|$
$[BD]$ açıortay
[BD] açıortay
$m(\widehat{DBC}) = 120°$
$\Rightarrow m(\widehat{DAB}) = \alpha = ?$

A) 140 B) 130 C) 120 D) 110 E) 100

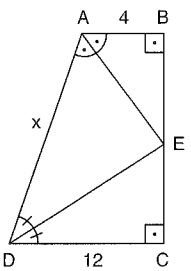
14.



ABCD dik yamuk
ABCD right trapezoid
$m(\widehat{ABE}) = m(\widehat{EBC})$
$|AB| = 4$ br
$|ED| = 2$ br
$|AD| = 6$ br
$\Rightarrow A(ABCD) = ?$

A) 28 B) 30 C) 32 D) 40 E) 48

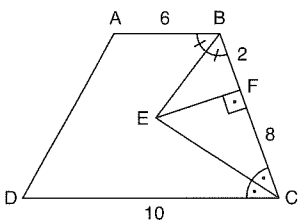
15.



ABCD dik yamuk
ABCD right trapezoid
$[DE]$, $[AE]$ açıortay
[DE], [AE] bisector
$|AB| = 4$ br
$|DC| = 12$ br
$\Rightarrow |AD| = x = ?$

A) 4 B) 6 C) 8 D) 12 E) 16

16.

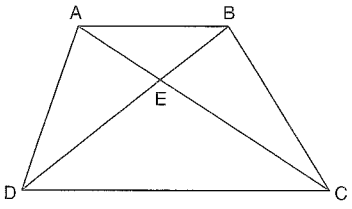


ABCD yamuk
ABCD trapezoid
$[BE]$, $[EC]$ açıortay
[BE], [EC] bisector
$[EF] \perp [BC]$
$|DC| = 10$ br
$|AB| = 6$ br
$|BF| = 2$ br
$|FC| = 8$ br
$\Rightarrow A(ABCD) = ?$

A) 40 B) 42 C) 48 D) 56 E) 64

PUZA YAYINLARI

1.



ABCD yamuk

ABCD trapezoid

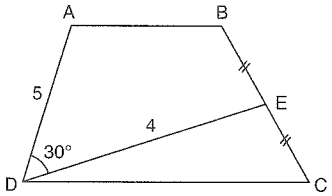
$A(AEB) = 4\ br^2$

$A(ADE) = 10\ br^2$

$\Rightarrow A(ABCD) = ?$

A) 25 B) 28 C) 32 D) 45 E) 49

2.



ABCD yamuk

ABCD trapezoid

$|BE| = |EC|$

$m(\widehat{ADE}) = 30°$

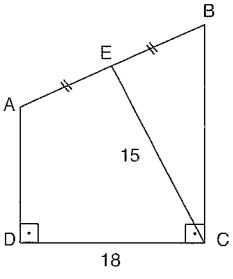
$|AD| = 5$ br

$|DE| = 4$ br

$\Rightarrow A(ABCD) = ?$

A) 5 B) $5\sqrt{3}$ C) 10 D) $10\sqrt{3}$ E) 20

3.



ABCD dik yamuk

ABCD right trapezoid

$[DC] \perp [BC]$

$|AE| = |EB|$

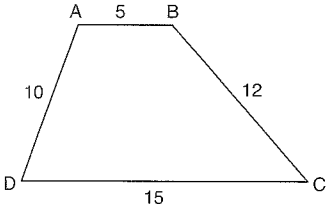
$|CE| = 15$ br

$|DC| = 18$ br

$\Rightarrow A(ABCD) = ?$

A) 96 B) 108 C) 135 D) 152 E) 216

4.



ABCD yamuk

ABCD trapezoid

$|AB| = 5$ br

$|BC| = 12$ br

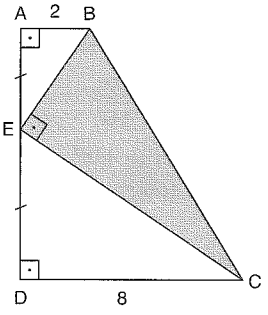
$|AD| = 10$ br

$|DC| = 15$ br

$\Rightarrow A(ABCD) = ?$

A) 80 B) 84 C) 88 D) 92 E) 96

5.



ABCD dik yamuk

ABCD right trapezoid

$[AD] \perp [DC]$

$[BE] \perp [EC]$

$|AB| = 2$ br

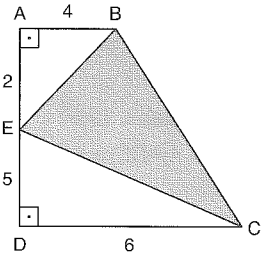
$|DC| = 8$ br

$|AE| = |ED|$

$\Rightarrow A(EBC) = ?$

A) 10 B) 20 C) 30 D) 40 E) 50

6.



ABCD dik yamuk

ABCD right trapezoid

$[AD] \perp [DC]$

$|AE| = 2$ br

$|AB| = 4$ br

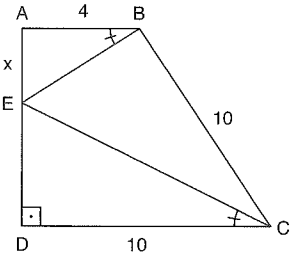
$|ED| = 5$ br

$|DC| = 6$ br

$\Rightarrow A(EBC) = ?$

A) 35 B) 25 C) 19 D) 16 E) 6

7.



ABCD dik yamuk

ABCD right trapezoid

$[AD] \perp [DC]$

$m(\widehat{ABE}) = m(\widehat{ECD})$

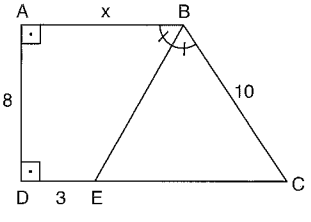
$|AB| = 4$ br

$|DC| = |BC| = 10$ br

$\Rightarrow |AE| = x = ?$

A) 2 B) $\frac{16}{7}$ C) $\frac{7}{2}$ D) 4 E) $\frac{21}{4}$

8.



ABCD dik yamuk

ABCD right trapezoid

$[AD] \perp [DC]$

$m(\widehat{ABE}) = m(\widehat{EBC})$

$|AD| = 8$ br

$|DE| = 3$ br

$|BC| = 10$ br

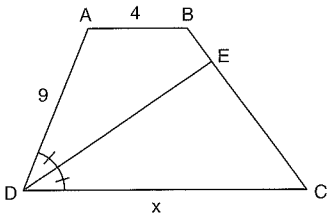
$\Rightarrow |AB| = x = ?$

A) 7 B) 6 C) 5 D) 4 E) 3

PUZA YAYINLARI

www.ztcprep.com

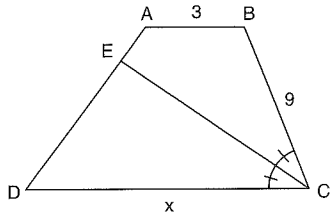
9.



ABCD yamuk
ABCD trapezoid
$m(\widehat{ADE}) = m(\widehat{EDC})$
$|EC| = 2|EB|$
$|AB| = 4$ br
$|AD| = 9$ br
$\Rightarrow |DC| = x = ?$

A) 12 B) 10 C) 8 D) 7 E) 6

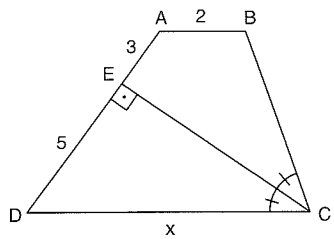
10.



ABCD yamuk
ABCD trapezoid
$m(\widehat{BCE}) = m(\widehat{ECD})$
$2|ED| = 3|AE|$
$|AB| = 3$ br
$|BC| = 9$ br
$\Rightarrow |DC| = x = ?$

A) $\frac{7}{2}$ B) 6 C) $\frac{15}{2}$ D) 9 E) $\frac{27}{2}$

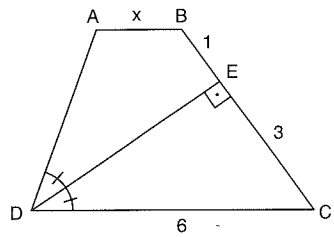
11.



ABCD yamuk
ABCD trapezoid
$m(\widehat{ECD}) = m(\widehat{ECB})$
$[EC] \perp [AD]$
$|AB| = 2$ br
$|AE| = 3$ br
$|ED| = 5$ br
$\Rightarrow |DC| = x = ?$

A) 10 B) 9 C) 8 D) 7 E) 6

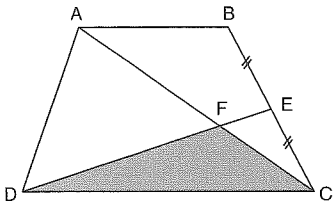
12.



ACBD yamuk
ABCD trapezoid
$[DE] \perp [BC]$
$m(\widehat{ADE}) = m(\widehat{EDC})$
$|BE| = 1$ br
$|EC| = 3$ br
$|DC| = 6$ br
$\Rightarrow |AB| = x = ?$

A) $\frac{5}{6}$ B) 2 C) $\frac{11}{3}$ D) 4 E) $\frac{26}{3}$

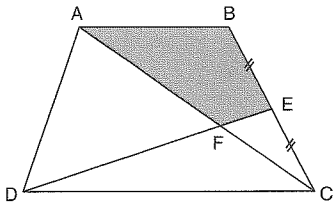
13.



ABCD yamuk
ABCD trapezoid
$|BE| = |EC|$
$5|AB| = 4|DC|$
$A(EFC) = 6\,br^2$
$\Rightarrow A(DFC) = ?$

A) $\frac{15}{2}$ B) 9 C) 12 D) 15 E) 18

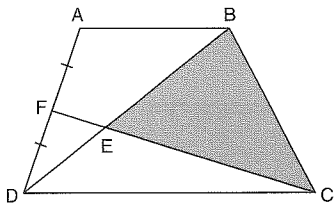
14.



ABCD yamuk
ABCD trapezoid
$|BE| = |EC|$
$|DC| = 2|AB|$
$A(EFC) = 10\,br^2$
$\Rightarrow A(ABEF) = ?$

A) 75 B) 65 C) 50 D) 40 E) 30

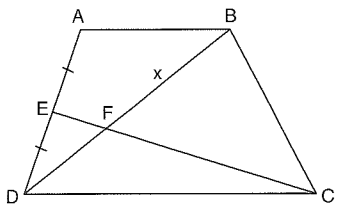
15.



ABCD yamuk
ABCD trapezoid
$|AF| = |FD|$
$|EC| = 3|FE|$
$A(FED) = 4\,br^2$
$\Rightarrow A(BEC) = ?$

A) 24 B) 22 C) 20 D) 12 E) 8

16.

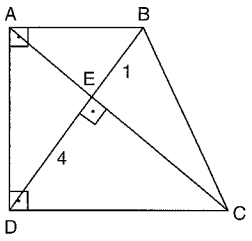


ABCD yamuk
ABCD trapezoid
$|AE| = |ED|$
$3|AB| = 2|DC|$
$|DF| = 9$ br
$\Rightarrow |FB| = x = ?$

A) 18 B) 15 C) 12 D) $\frac{17}{3}$ E) $\frac{13}{2}$

PUZA YAYINLARI

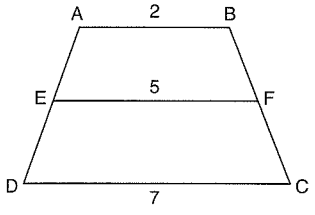
1.



ABCD yamuk
ABCD trapezoid
$[AD] \perp [DC]$
$[AC] \perp [DB]$
$|BE| = 1$ br
$|DE| = 4$ br
$\Rightarrow$ A(ABCD) = ?

A) 10 B) 16 C) 20 D) 25 E) 30

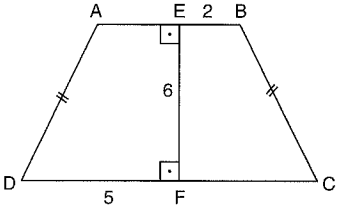
2.



ABCD yamuk
ABCD trapezoid
$[AB] \,//\, [EF]$
$|AB| = 2$ br
$|EF| = 5$ br
$|DC| = 7$ br
$\Rightarrow \frac{A(ABFE)}{A(EFCD)} = ?$

A) $\frac{7}{8}$ B) $\frac{7}{12}$ C) $\frac{3}{2}$ D) $\frac{5}{3}$ E) $\frac{7}{2}$

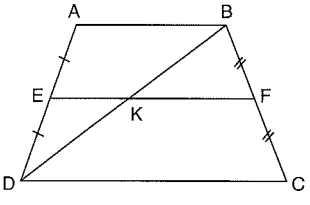
3.



ABCD ikizkenar yamuk
ABCD isosceles trapezoid
$[EF] \perp [DC]$
$|AD| = |BC|$
$|EB| = 2$ br
$|DF| = 5$ br
$|EF| = 6$ br
$\Rightarrow$ A(ABCD) = ?

A) 30 B) 36 C) 42 D) 48 E) 54

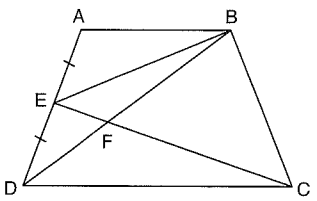
4.



ABCD yamuk
ABCD trapezoid
$|AE| = |ED|$
$|BF| = |FC|$
$A(ABKE) = 9$ br^2
$A(KFCD) = 15$ br^2
$A(BFK) = S_1$
$A(EKD) = S_2$
$\Rightarrow S_1 + S_2 = ?$

A) 3 B) 5 C) 8 D) 14 E) 16

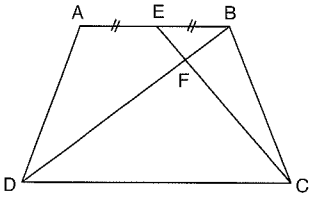
5.



ABCD yamuk
ABCD trapezoid
$|AE| = |ED|$
$A(DEF) = 4$ br^2
$A(BFC) = 24$ br^2
$\Rightarrow$ A(ABCD) = ?

A) 96 B) 78 C) 60 D) 58 E) 52

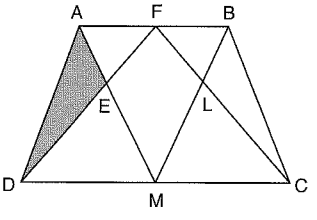
6.



ABCD yamuk
ABCD trapezoid
$|AE| = |EB|$
$2|DC| = 3|AB|$
$A(BFC) = 18$ br^2
$\Rightarrow$ A(ABCD) = ?

A) 144 B) 120 C) 114 D) 98 E) 84

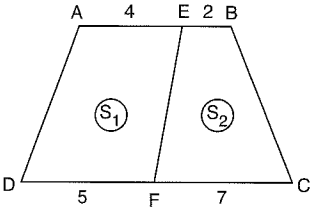
7.



ABCD yamuk
ABCD trapezoid
$A(EFML) = 20$ br^2
$A(BLC) = 8$ br^2
$\Rightarrow$ A(ADE) = ?

A) 28 B) 24 C) 16 D) 12 E) 8

8.



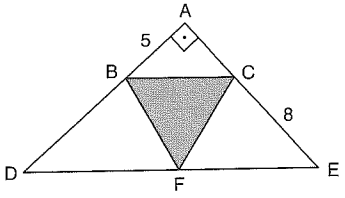
ABCD yamuk
ABCD trapezoid
$|AE| = 4$ br
$|EB| = 2$ br
$|DF| = 5$ br
$|FC| = 7$ br
$A(AEFD) = S_1$
$A(EBCF) = S_2$
$\Rightarrow \frac{S_1}{S_2} = ?$

A) 2 B) 1 C) $\frac{4}{5}$ D) $\frac{2}{5}$ E) $\frac{1}{7}$

PUZA YAYINLARI

www.ztcprep.com

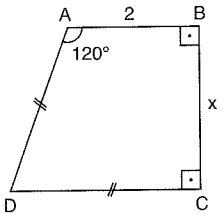
9.



BCED yamuk
BCED trapezoid
$[DA] \perp [EA]$
$|AB| = 5$ br
$|CE| = 8$ br
$\Rightarrow A(BCF) = ?$

A) 80 B) 60 C) 40 D) 20 E) 10

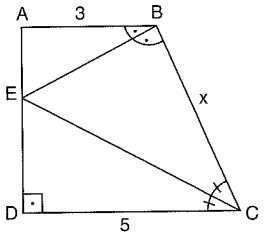
10.



ABCD dik yamuk
ABCD right trapezoid
$|AD| = |DC|$
$m(\widehat{DAB}) = 120°$
$|AB| = 2$ br
$\Rightarrow |BC| = x = ?$

A) 2 B) $2\sqrt{3}$ C) 4 D) $4\sqrt{3}$ E) 8

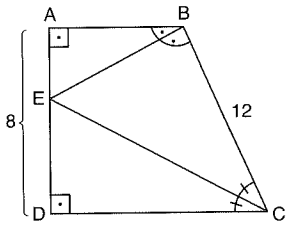
11.



ABCD dik yamuk
ABCD right trapezoid
$[AD] \perp [DC]$
$m(\widehat{DCE}) = m(\widehat{ECB})$
$m(\widehat{ABE}) = m(\widehat{EBC})$
$|AB| = 3$ br
$|DC| = 5$ br
$\Rightarrow |BC| = x = ?$

A) 10 B) 8 C) 6 D) 5 E) 3

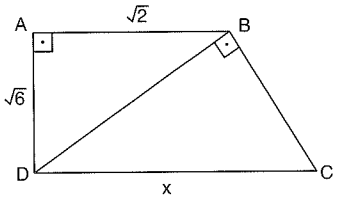
12.



ABCD dik yamuk
ABCD right trapezoid
$[AD] \perp [DC]$
$m(\widehat{ABE}) = m(\widehat{EBC})$
$m(\widehat{BCE}) = m(\widehat{ECD})$
$|AD| = 8$ br
$|BC| = 12$ br
$\Rightarrow A(ABCD) = ?$

A) 96 B) 84 C) 72 D) 56 E) 48

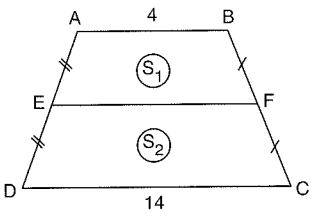
13.



ABCD dik yamuk
ABCD right trapezoid
$[AD] \perp [AB]$
$[DB] \perp [BC]$
$|AB| = \sqrt{2}$ br
$|AD| = \sqrt{6}$ br
$\Rightarrow |DC| = x = ?$

A) $2\sqrt{3}$ B) $4\sqrt{2}$ C) $\sqrt{2}+3$ D) $2\sqrt{2}+4$ E) $4\sqrt{2}+3$

14.

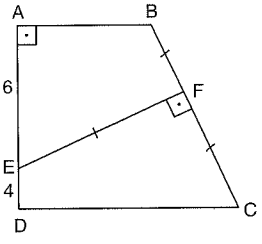


ABCD yamuk
ABCD trapezoid
$|AE| = |ED|$
$|BF| = |FC|$
$|AB| = 4$ br
$|DC| = 14$ br

$A(ABFE) = S_1$ $A(EFCD) = S_2$ $\Rightarrow \frac{S_2}{S_1} = ?$

A) $\frac{2}{7}$ B) $\frac{13}{23}$ C) 1 D) $\frac{23}{13}$ E) 2

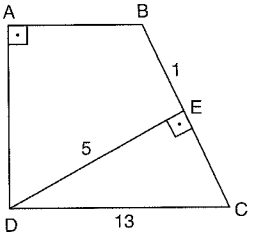
15.



ABCD dik yamuk
ABCD right trapezoid
$[AD] \perp [AB]$
$[EF] \perp [BC]$
$|BF| = |FC| = |EF|$
$|AE| = 6$ br
$|ED| = 4$ br
$\Rightarrow A(ABCD) = ?$

A) 100 B) 80 C) 75 D) 50 E) 25

16.



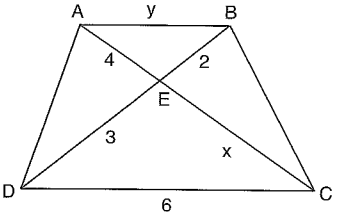
ABCD dik yamuk
ABCD right trapezoid
$[AD] \perp [AB]$
$[DE] \perp [BC]$
$|BE| = 1$ br
$|DC| = 13$ br
$|DE| = 5$ br
$\Rightarrow A(ABCD) = ?$

A) 144 B) 72 C) 35 D) 28 E) 26

PUZA YAYINLARI

www.ztcprep.com

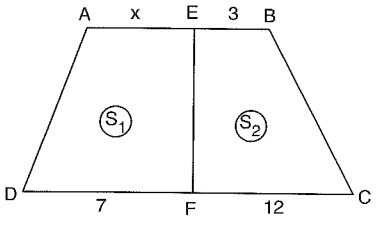
1.



ABCD yamuk
ABCD trapezoid
$|AE| = 4$ br
$|BE| = 2$ br
$|DE| = 3$ br
$|DC| = 6$ br
$|CE| = x$
$|AB| = y$
$\Rightarrow x + y = ?$

A) 6 B) 8 C) 9 D) 10 E) 12

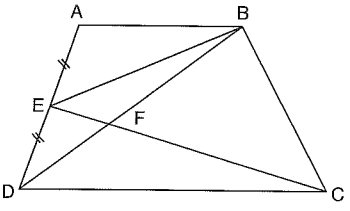
2.



ABCD yamuk
ABCD trapezoid
$S_1 = S_2$
$|EB| = 3$ br
$|DF| = 7$ br
$|FC| = 12$ br
$\Rightarrow |AE| = x = ?$

A) 10 B) 8 C) 7 D) 6 E) 5

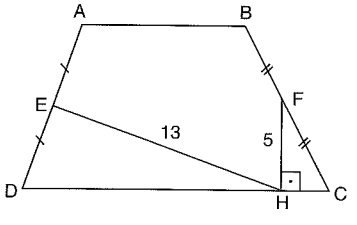
3.



ABCD yamuk
ABCD trapezoid
$|AE| = |ED|$
$A(EFD) = 2$ br^2
$A(BFC) = 12$ br^2
$\Rightarrow A(ABCD) = ?$

A) 48 B) 44 C) 42 D) 36 E) 30

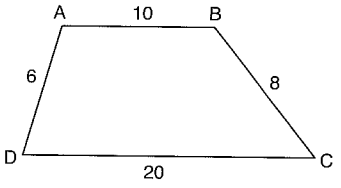
4.



ABCD yamuk
ABCD trapezoid
$[FH] \perp [DC]$
$|AE| = |ED|$
$|BF| = |FC|$
$|FH| = 5$ br
$|EH| = 13$ br
$\Rightarrow A(ABCD) = ?$

A) 130 B) 120 C) 100 D) 65 E) 60

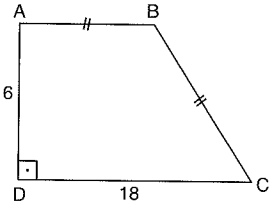
5.



ABCD yamuk
ABCD trapezoid
$|AB| = 10$ br
$|BC| = 8$ br
$|DC| = 20$ br
$|AD| = 6$ br
$\Rightarrow A(ABCD) = ?$

A) 24 B) 48 C) 64 D) 72 E) 108

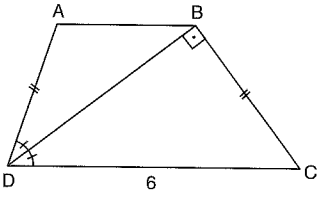
6.



ABCD dik yamuk
ABCD right trapezoid
$[AD] \perp [DC]$
$|AB| = |BC|$
$|AD| = 6$ br
$|DC| = 18$ br
$\Rightarrow A(ABCD) = ?$

A) 144 B) 128 C) 112 D) 100 E) 84

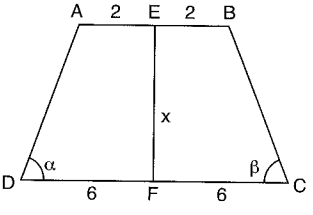
7.



ABCD ikizkenar yamuk
ABCD isosceles trapezoid
$[DB] \perp [BC]$
$|AD| = |BC|$
$|DC| = 6$ br
$\Rightarrow A(ABCD) = ?$

A) 6 B) $\frac{9\sqrt{3}}{2}$ C) $6\sqrt{3}$ D) $9\sqrt{3}$ E) 12

8.



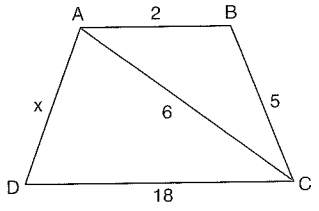
ABCD yamuk
ABCD trapezoid
$\alpha + \beta = 90°$
$|AE| = |EB| = 2$ br
$|DF| = |FC| = 6$ br
$\Rightarrow |EF| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

PUZA YAYINLARI

www.ztcprep.com

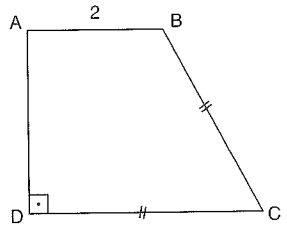
9.



ABCD yamuk
ABCD trapezoid
$|AB| = 2$ br
$|BC| = 5$ br
$|AC| = 6$ br
$|DC| = 18$ br
$\Rightarrow |AD| = x = ?$

A) 5 B) 10 C) 15 D) 20 E) 24

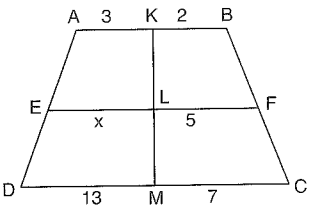
10.



ABCD dik yamuk
ABCD right trapezoid
$[AD] \perp [DC]$
$|DC| = |BC|$
$|AB| = 2$ br
Ç(ABCD) = 28 br
$\Rightarrow$ A(ABCD) = ?

A) 30 B) 36 C) 40 D) 48 E) 60

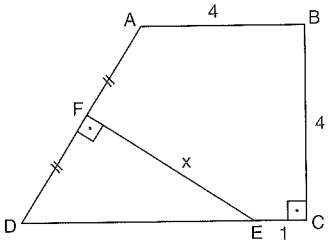
11.



ABCD yamuk
ABCD trapezoid
$[EF] \,//\, [DC]$
$|AK| = 3$ br
$|KB| = 2$ br
$|DM| = 13$ br
$|MC| = 7$ br
$|LF| = 5$ br
$\Rightarrow |EL| = x = ?$

A) 11 B) 10 C) 9 D) 7 E) 6

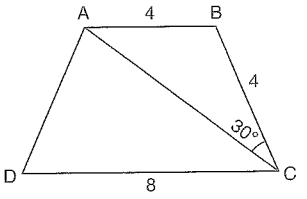
12.



ABCD dik yamuk
ABCD right trapezoid
$[BC] \perp [DC]$
$[EF] \perp [AD]$
$|AF| = |FD|$
$|AB| = |BC| = 4$ br
$|EC| = 1$ br
$\Rightarrow |FE| = x = ?$

A) $\sqrt{5}$ B) $2\sqrt{5}$ C) 5 D) $5\sqrt{2}$ E) 10

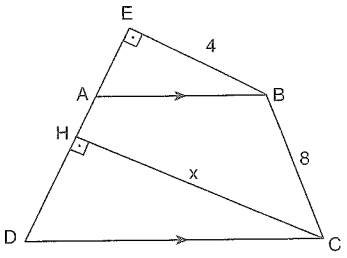
13.



ABCD yamuk
ABCD trapezoid
$m(\widehat{ACB}) = 30°$
$|AB| = |BC| = 4$ br
$|DC| = 8$ br
$\Rightarrow$ A(ABCD) = ?

A) 12 B) $8\sqrt{3}$ C) $12\sqrt{3}$ D) 24 E) $24\sqrt{3}$

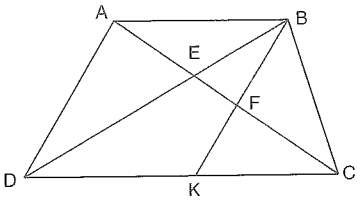
14.



ABCD yamuk
ABCD trapezoid
$[EB] \perp [DE]$
$[CH] \perp [DE]$
$|EB| = 4$ br
$|AD| = |BC| = 8$ br
$A(ABCD) = 40\ br^2$
$\Rightarrow |CH| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 6

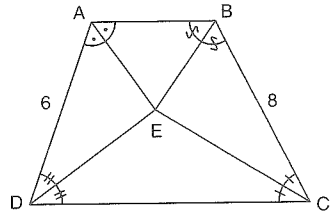
15.



ABCD yamuk
ABCD trapezoid
ABKD paralelkenar
ABKD parallelogram
$|DE| = 3|EB|$
$A(EBF) = S_1$
$A(DEFK) = S_2$
$\Rightarrow \frac{S_2}{S_1} = ?$

A) 11 B) $\frac{17}{3}$ C) 4 D) $\frac{7}{2}$ E) 3

16.



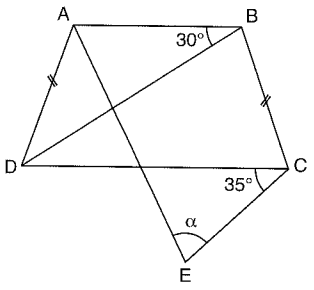
ABCD yamuk
ABCD trapezoid
[AE], [BE], [CE], [DE] açıortay
[AE], [BE], [CE], [DE] bisector
$|AD| = 6$ br
$|BC| = 8$ br
$\Rightarrow$ Ç(ABCD) = ?

A) 20 B) 26 C) 28 D) 30 E) 32

PUZA YAYINLARI

www.ztcprep.com

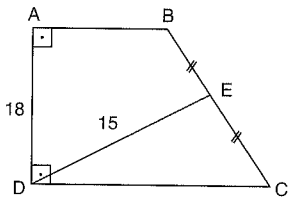
1.



ABCD ikizkenar yamuk
ABCD isosceles trapezoid
$|AD| = |BC|$
$|AE| = |BD|$
$m(\widehat{ABD}) = 30°$
$m(\widehat{DCE}) = 35°$
$\Rightarrow m(\widehat{AEC}) = \alpha = ?$

A) 15 B) 30 C) 35 D) 65 E) 70

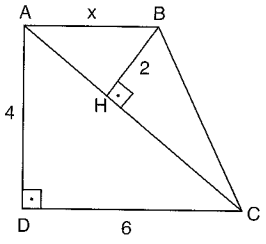
2.



ABCD dik yamuk
ABCD right trapezoid
$[AD] \perp [DC]$
$|BE| = |EC|$
$|AD| = 18$ br
$|DE| = 15$ br
$\Rightarrow A(ABCD) = ?$

A) 120 B) 135 C) 196 D) 216 E) 270

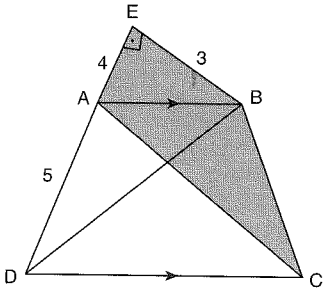
3.



ABCD dik yamuk
ABCD right trapezoid
$[AD] \perp [DC]$
$[BH] \perp [AC]$
$|BH| = 2$ br
$|AD| = 4$ br
$|DC| = 6$ br
$\Rightarrow |AB| = x = ?$

A) $\sqrt{13}$ B) $\frac{10}{3}$ C) 4 D) $\frac{20}{3}$ E) $2\sqrt{13}$

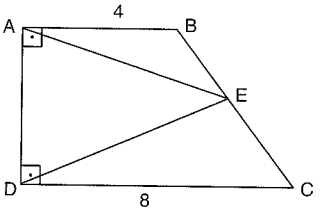
4.



ABCD yamuk
ABCD trapezoid
$[BE] \perp [ED]$
$|BE| = 3$ br
$|AE| = 4$ br
$|AD| = 5$ br
$\Rightarrow A(AEBC) = ?$

A) $\frac{27}{2}$ B) 16 C) 18 D) 24 E) 27

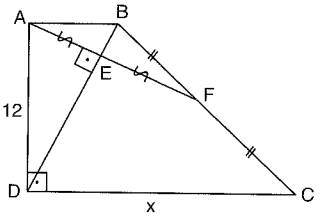
5.



ABCD dik yamuk
ABCD right trapezoid
AED eşkenar üçgen
AED equilateral triangle
$[AD] \perp [DC]$
$|AB| = 4$ br
$|DC| = 8$ br
$\Rightarrow A(ABCD) = ?$

A) 12 B) $12\sqrt{3}$ C) 24 D) $24\sqrt{3}$ E) 36

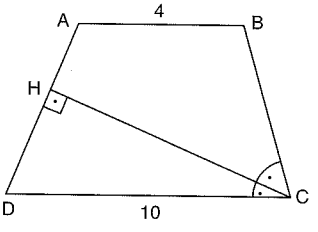
6.



ABCD dik yamuk
ABCD right trapezoid
$[AD] \perp [DC]$
$[AF] \perp [BD]$
$|BF| = |FC|$
$|AE| = |EF|$
$|AD| = 12$ br
$\Rightarrow |DC| = x = ?$

A) $4\sqrt{3}$ B) $6\sqrt{3}$ C) 10 D) $8\sqrt{3}$ E) 12

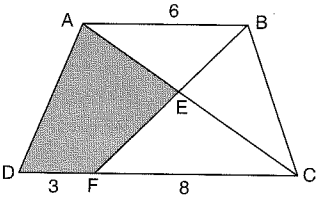
7.



ABCD yamuk
ABCD trapezoid
$|AD| = |BC|$
$m(\widehat{DCH}) = m(\widehat{HCB})$
$|AB| = 4$ br
$|DC| = 10$ br
$\Rightarrow A(ABCD) = ?$

A) $24\sqrt{3}$ B) $21\sqrt{3}$ C) $18\sqrt{3}$ D) 18 E) $9\sqrt{3}$

8.



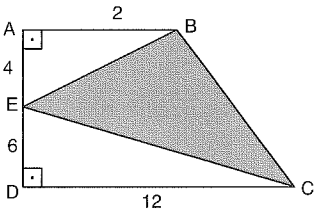
ABCD yamuk
ABCD trapezoid
$|AB| = 6$ br
$|DF| = 3$ br
$|FC| = 8$ br
$A(BEC) = 12$ br^2
$\Rightarrow A(AEFD) = ?$

A) $\frac{21}{2}$ B) 12 C) $\frac{45}{2}$ D) 36 E) 54

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

www.ztcprep.com

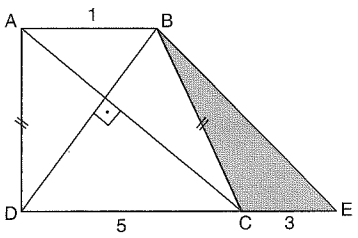
9.



ABCD dik yamuk
ABCD right trapezoid
[AD] ⊥ [DC]
|AB| = 2 br
|AE| = 4 br
|ED| = 6 br
|DC| = 12 br
⇒ A(EBC) = ?

A) 50 B) 40 C) 36 D) 30 E) 25

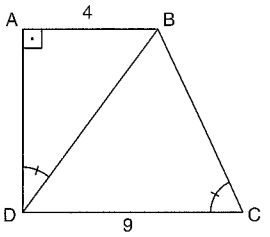
10.



ABCD ikizkenar yamuk
ABCD isosceles trapezoid
|AD| = |BC|
[BD] ⊥ [AC]
|AB| = 1 br
|CE| = 3 br
|DC| = 5 br
⇒ A(BCE) = ?

A) 18 B) 15 C) 12 D) 9 E) $\frac{9}{2}$

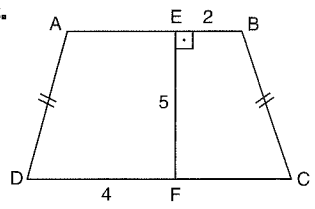
11.



ABCD dik yamuk
ABCD right trapezoid
[AD] ⊥ [AB]
$m(\widehat{ADB}) = m(\widehat{BCD})$
|AB| = 4 br
|DC| = 9 br
⇒ A(ABCD) = ?

A) $36\sqrt{3}$ B) 36 C) 24 D) $13\sqrt{5}$ E) 13

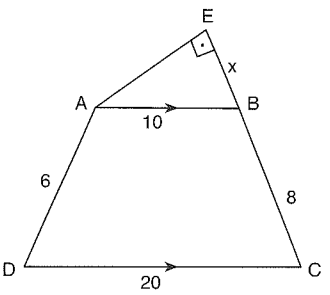
12.



ABCD ikizkenar yamuk
ABCD isosceles trapezoid
|AD| = |BC|
|EB| = 2 br
|EF| = 5 br
|DF| = 4 br
⇒ A(ABCD) = ?

A) 24 B) 25 C) 30 D) 36 E) 40

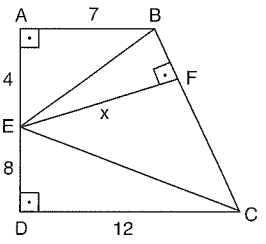
13.



ABCD yamuk
ABCD trapezoid
[CE] ⊥ [AE]
|AB| = 10 br
|BC| = 8 br
|AD| = 6 br
|DC| = 20 br
⇒ |EB| = x = ?

A) 3,6 B) 4,8 C) 6 D) 8 E) 9,6

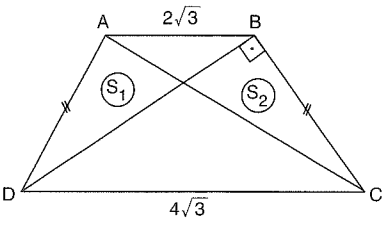
14.



ABCD dik yamuk
ABCD right trapezoid
[AD] ⊥ [DC]
[EF] ⊥ [BC]
|AB| = 7 br
|AE| = 4 br
|ED| = 8 br
|DC| = 12 br
⇒ |EF| = x = ?

A) 10 B) 8 C) 6 D) 5 E) 4

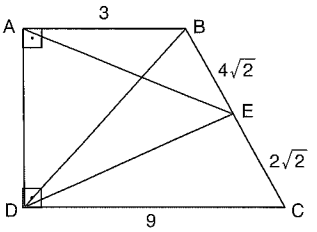
15.



ABCD ikizkenar yamuk
ABCD isosceles trapezoid
[BD] ⊥ [BC]
|AD| = |BC|
$|AB| = 2\sqrt{3}$ br
$|DC| = 4\sqrt{3}$ br
⇒ $S_1 + S_2$ = ?

A) $4\sqrt{3}$ B) 6 C) $6\sqrt{3}$ D) 8 E) $8\sqrt{3}$

16.

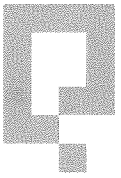


ABCD dik yamuk
ABCD right trapezoid
[AD] ⊥ [DC]
|AB| = 3 br
$|BE| = 4\sqrt{2}$ br
$|EC| = 2\sqrt{2}$ br
|DC| = 9 br
|AE| = x
|DE| = y
⇒ $\frac{x^2}{y^2}$ = ?

A) 2 B) $\frac{7}{4}$ C) $\frac{65}{53}$ D) $\frac{5}{16}$ E) $\frac{2}{51}$

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

ZTC زنگنه مجموعه موسسات



YAMUK TRAPEZOID

Yanıt Anahtarı Answer Key

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	E	C	D	A	D	A	C	D	E	A	C	B	D	E	D

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	D	E	B	C	B	A	C	C	B	E	C	E	D	C	D

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	D	C	A	C	C	B	A	E	D	C	B	C	D	D	C

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	C	A	A	B	E	E	E	D	A	B	E	A	E	B

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	D	C	B	D	E	D	C	C	B	C	B	A	E	E	E

TEST 6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	C	E	E	B	D	B	A	B	D	A	B	D	D	C	B

TEST 7

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	A	C	C	C	B	D	B	D	E	B	E	B	D	D	C

TEST 8

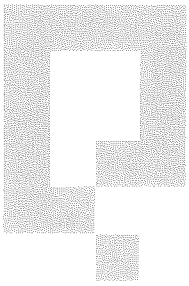
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	B	E	B	D	E	B	D	C	B	C	B	C	E	A	C

TEST 9

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	D	A	A	D	D	B	C	D	E	D	C	D	B	A	C

www.ztcprep.com

زنگنه ZTC
مجموعه موسسات

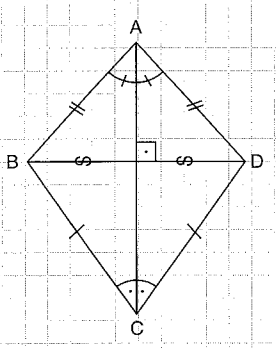


DELTOİD

DELTOID

www.ztcprep.com

ÖZELLİK | Property 1

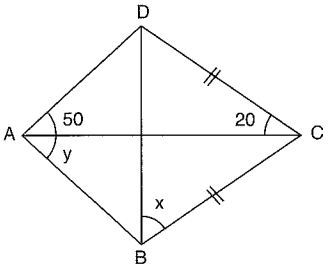


ABCD deltoid

ABCD deltoid

$m(\widehat{ABC}) = m(\widehat{ADC})$

1.



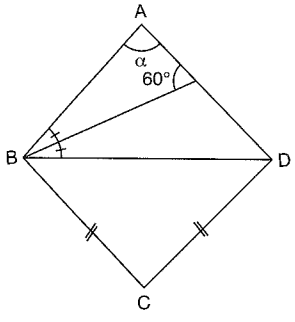
ABCD deltoid

ABCD deltoid

$\Rightarrow x - y = ?$

20

2.



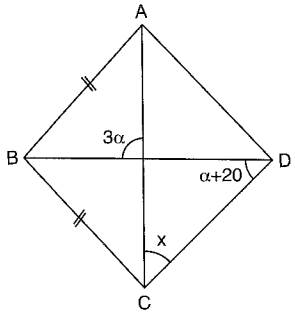
ABCD deltoid

ABCD deltoid

$\Rightarrow \alpha = ?$

100

3.



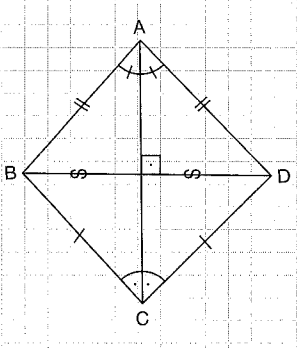
ABCD deltoid

ABCD deltoid

$\Rightarrow x = ?$

40

ÖZELLİK | Property 2

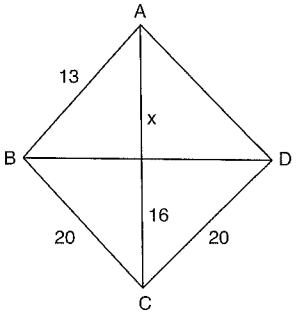


ABCD deltoid

ABCD deltoid

$[AC] \perp [BD]$

1.



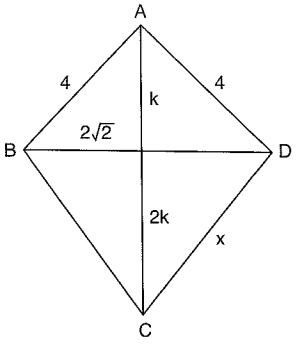
ABCD deltoid

ABCD deltoid

$\Rightarrow x = ?$

5

2.



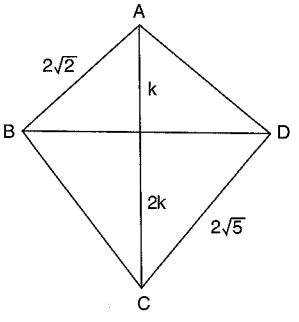
ABCD deltoid

ABCD deltoid

$\Rightarrow x = ?$

$2\sqrt{10}$

3.



ABCD deltoid

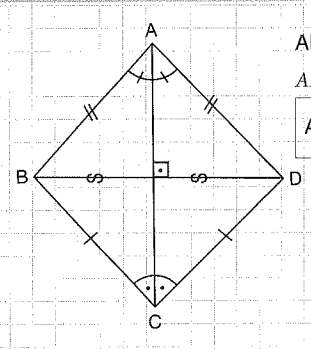
ABCD deltoid

$\Rightarrow |BD| = ?$

4

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

ÖZELLİK | Property 3

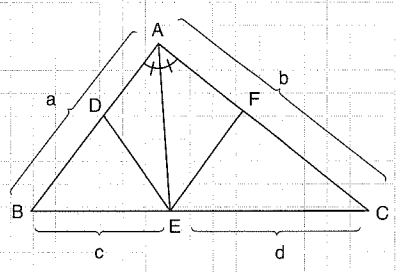


ABCD deltoid

ABCD deltoid

$$A(ABCD) = \frac{1}{2} |AC| \cdot |BD|$$

ÖZELLİK | Property 4

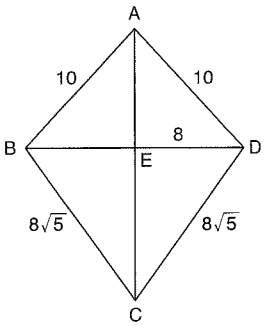


ADEF deltoid

ADEF deltoid

$$\frac{a}{c} = \frac{b}{d}$$

1.



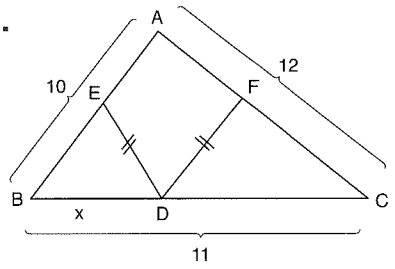
ABCD deltoid

ABCD deltoid

⇒ A(ABCD) = ?

176

1.



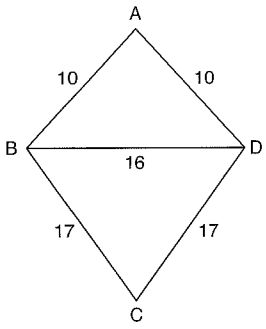
AEDF deltoid

ABCD deltoid

⇒ x = ?

5

2.



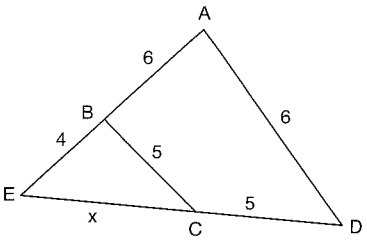
ABCD deltoid

ABCD deltoid

⇒ A(ABCD) = ?

168

2.



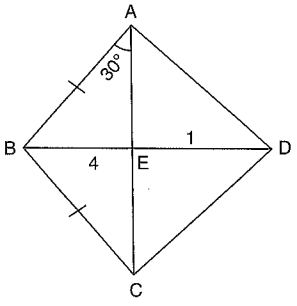
ABCD deltoid

ABCD deltoid

⇒ x = ?

$\frac{25}{3}$

3.



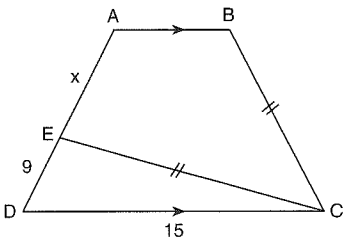
ABCD deltoid

ABCD deltoid

⇒ A(ABCD) = ?

$20\sqrt{3}$

3.



ABCE deltoid

ABCE deltoid

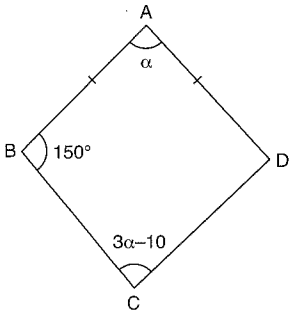
[AB] // [DC]

⇒ x = ?

6

PUZA YAYINLARI

1.



ABCD deltoid

ABCD deltoid

$|AB| = |AD|$

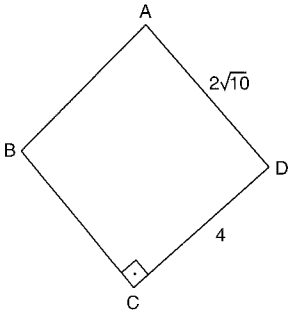
$m(\widehat{ABC}) = 150°$

$m(\widehat{BCD}) = 3\alpha - 10°$

$\Rightarrow m(\widehat{BAD}) = \alpha = ?$

A) 15 B) 17,5 C) 20 D) 22,5 E) 25

2.



ABCD deltoid

ABCD deltoid

$[BC] \perp [DC]$

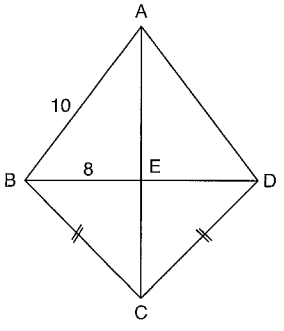
$|AD| = 2\sqrt{10}$ br

$|DC| = 4$ br

$\Rightarrow$ A(ABCD) = ?

A) 32 B) 24 C) 8 D) 6 E) 4

3.



ABCD deltoid

ABCD deltoid

$|BE| = 8$ br

$|AB| = 10$ br

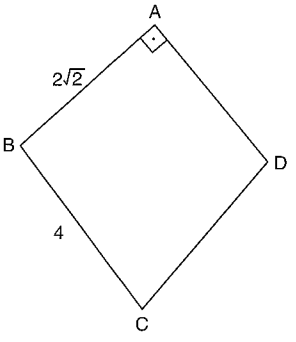
$|AE| = 2|EC|$

$|BC| = |CD|$

$\Rightarrow$ A(ABCD) = ?

A) 72 B) 54 C) 48 D) 36 E) 18

4.



ABCD deltoid

ABCD deltoid

$[AB] \perp [AD]$

$|AB| = |AD|$

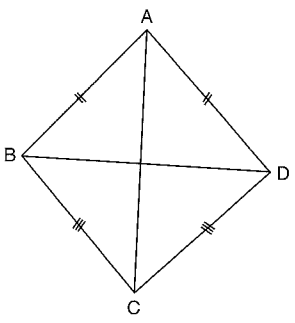
$|AB| = 2\sqrt{2}$ br

$|BC| = 4$ br

$\Rightarrow$ A(ABCD) = ?

A) $4\sqrt{3}$ B) $2\sqrt{3}+4$ C) $4\sqrt{3}+4$ D) $8\sqrt{3}$ E) $8\sqrt{3}+4$

5.



ABCD deltoid

ABCD deltoid

$|BA| = |AD|$

$|BC| = |CD|$

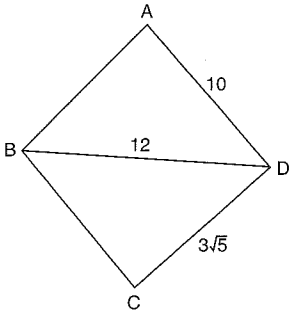
$|AC| = 10$ br

$|BD| = 6$ br

$\Rightarrow$ A(ABCD) = ?

A) 15 B) $15\sqrt{3}$ C) 30 D) $30\sqrt{3}$ E) 60

6.



ABCD deltoid

ABCD deltoid

$|AD| = 10$ br

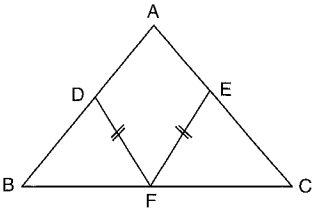
$|CD| = 3\sqrt{5}$ br

$|BD| = 12$ br

$\Rightarrow$ A(ABCD) = ?

A) 21 B) 33 C) 42 D) 44 E) 66

7.



ADFE deltoid

ADFE deltoid

$|BF| = 4$ br

$|FC| = 3$ br

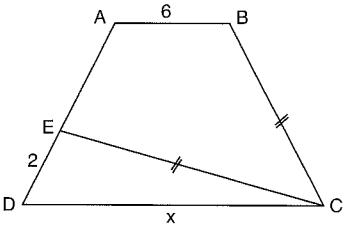
$|AB| = 8$ br

$|DF| = |FE|$

$\Rightarrow |AC| = ?$

A) 3 B) 4 C) 6 D) 8 E) 9

8.



ABCE deltoid

ABCE deltoid

$[AB] // [DC]$

$|EC| = |BC|$

$|AB| = 6$ br

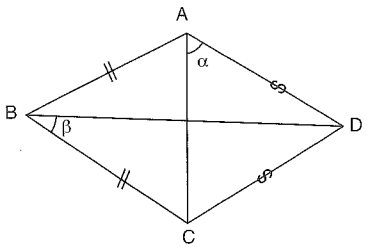
$|DE| = 2$ br

$\Rightarrow |DC| = x = ?$

A) 6 B) 8 C) 10 D) 12 E) 16

PUZA YAYINLARI PUZA YAYINLARI PUZA YAYINLARI

9.



ABCD deltoid

ABCD deltoid

$m(\widehat{BAC}) = 48°$

$m(\widehat{BDC}) = 24°$

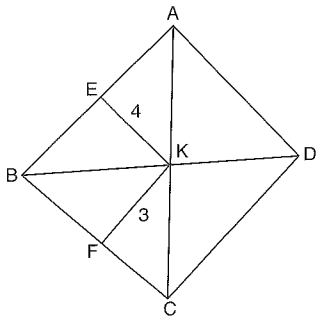
$m(\widehat{CAD}) = \alpha$

$m(\widehat{DBC}) = \beta$

$\Rightarrow \alpha + \beta = ?$

A) 18 B) 72 C) 96 D) 98 E) 108

10.



ABCD deltoid

ABCD deltoid

$|AE| = |EB|$

$|BF| = |FC|$

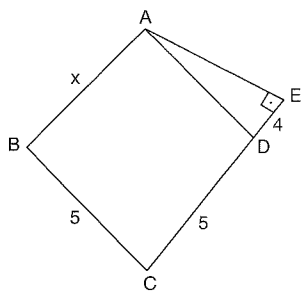
$|KE| = 4$ br

$|KF| = 3$ br

$\Rightarrow$ Ç(ABCD) = ?

A) 14 B) 21 C) 28 D) 35 E) 42

11.



[AE] ⊥ [CE]

ABCD deltoid

ABCD deltoid

$|DE| = 4$ br

$|CD| = 5$ br

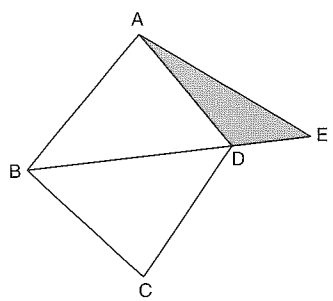
$|BC| = 5$ br

$2m(\widehat{DAE}) = m(\widehat{BAD})$

$\Rightarrow |AB| = x = ?$

A) 15 B) 13 C) 12 D) $4\sqrt{10}$ E) $2\sqrt{37}$

12.



ABCD deltoid

ABCD deltoid

$|AB| = |AD| = 16$ br

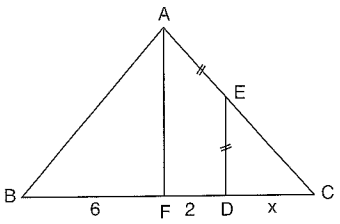
$m(\widehat{BAD}) = 120°$

$m(\widehat{DAE}) = 15°$

$\Rightarrow$ A(ADE) = ?

A) 64 B) $48\sqrt{3}$ C) $48\sqrt{2}$ D) 48 E) $16\sqrt{3}$

13.



ABDE deltoid

ABDE deltoid

$|AE| = |ED|$

$[AF] // [DE]$

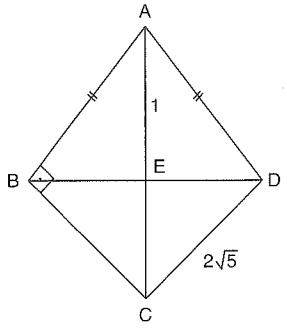
$|BF| = 6$ br

$|FD| = 2$ br

$\Rightarrow |DC| = x = ?$

A) 2 B) $\frac{8}{3}$ C) 3 D) $\frac{15}{4}$ E) 5

14.



ABCD deltoid

ABCD deltoid

$[AB] \perp [BC]$

$|AB| = |AD|$

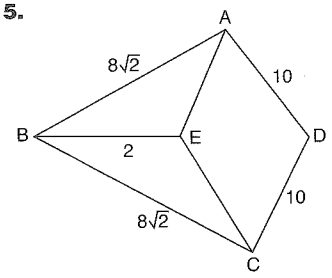
$|AE| = 1$ br

$|CD| = 2\sqrt{5}$ br

$\Rightarrow |EC| = x = ?$

A) 5 B) 4 C) $2\sqrt{3}$ D) 2 E) $\sqrt{3}$

15.



ABCD deltoid

ABCD deltoid

AECD eşkenar dörtgen

AECD rhombus

$|AB| = |BC| = 8\sqrt{2}$ br

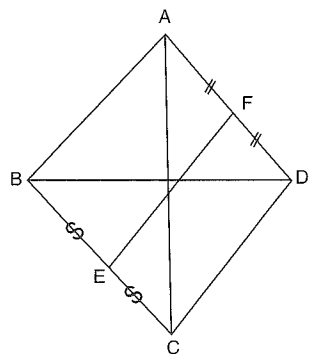
$|AD| = |DC| = 10$ br

$|BE| = 2$ br

$\Rightarrow$ A(AECD) = ?

A) 32 B) 48 C) 54 D) 72 E) 96

16.



ABCD deltoid

ABCD deltoid

$|AF| = |FD|$

$|BE| = |EC|$

$|AC| = 8$ br

$|BD| = 16$ br

$\Rightarrow |EF| = ?$

A) 16 B) $8\sqrt{5}$ C) 8 D) $4\sqrt{5}$ E) 4

PUZA YAYINLARI

www.ztcprep.com

ZTC زنگنه مجموعه موسسات

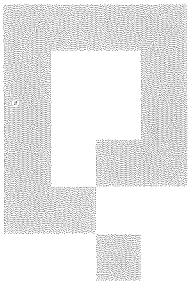
DELTOİD DELTOID
Yanıt Anahtarı Answer Key

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	B	A	C	C	E	C	B	E	C	D	A	B	B	E	D

www.ztcprep.com

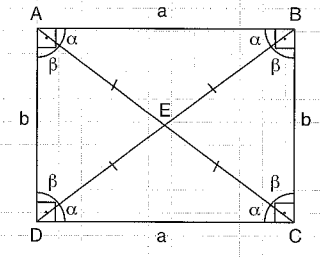
ZTC زنگنه
مجموعه موسسات



DİKDÖRTGEN
RECTANGLE

www.ztcprep.com

ÖZELLİK | Property 1



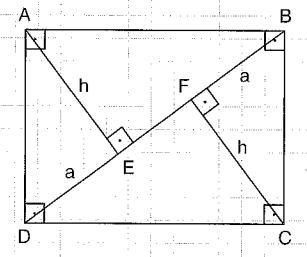
ABCD dikdörtgen

ABCD rectangle

Ç(ABCD) = 2(a + b)

A(ABCD) = a · b

ÖZELLİK | Property 2



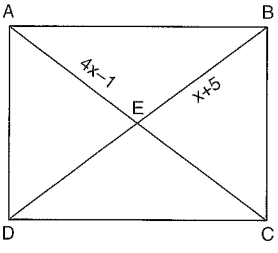
ABCD dikdörtgen

ABCD rectangle

|BF| = |DE|

|FC| = |AE|

1.



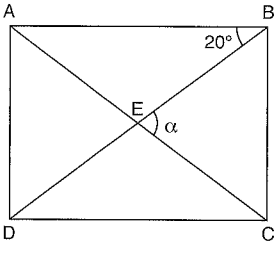
ABCD dikdörtgen

ABCD rectangle

⇒ x = ?

2

2.



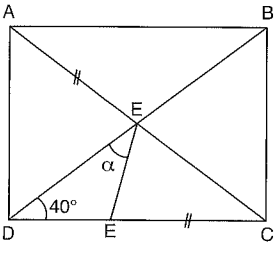
ABCD dikdörtgen

ABCD rectangle

⇒ α = ?

40

3.



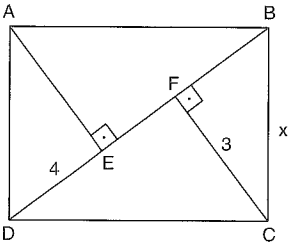
ABCD dikdörtgen

ABCD rectangle

⇒ α = ?

30

1.



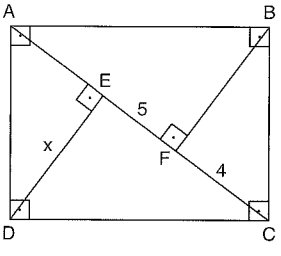
ABCD dikdörtgen

ABCD rectangle

⇒ x = ?

5

2.



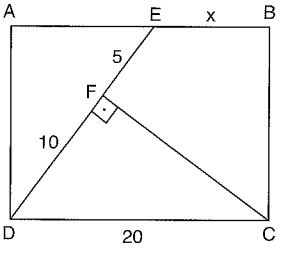
ABCD dikdörtgen

ABCD rectangle

⇒ x = ?

6

3.



ABCD dikdörtgen

ABCD rectangle

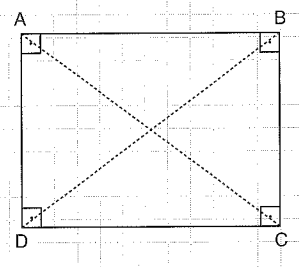
⇒ x = ?

12,5

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK|Property 3



ABCD dikdörtgen

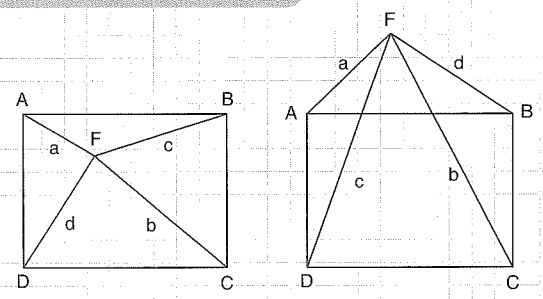
ABCD rectangle

$|AC| = |BD|$

Köşegenler eşit

Diagonals are equal

ÖZELLİK|Property 4

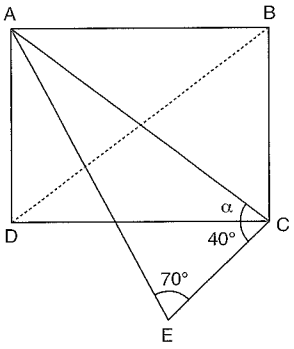


ABCD dikdörtgen

ABCD rectangle

$a^2 + b^2 = c^2 + d^2$

1.

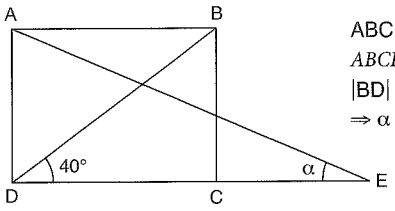


$|AE| = |BD|$

$\Rightarrow \alpha = ?$

30

2.



ABCD dikdörtgen

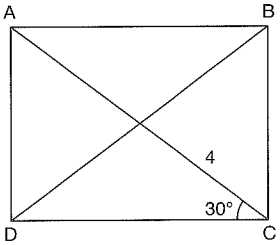
ABCD rectangle

$|BD| = |CE|$

$\Rightarrow \alpha = ?$

20

3.



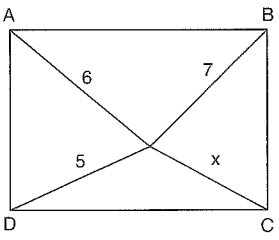
ABCD dikdörtgen

ABCD rectangle

$\Rightarrow A(ABCD) = ?$

$16\sqrt{3}$

1.



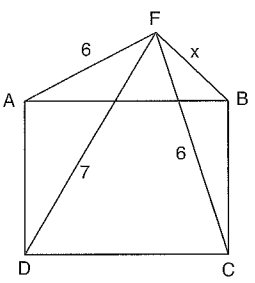
ABCD dikdörtgen

ABCD rectangle

$\Rightarrow x = ?$

$\sqrt{38}$

2.



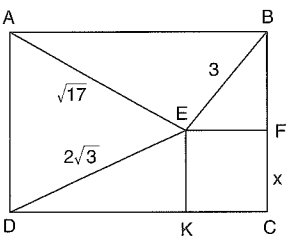
ABCD dikdörtgen

ABCD rectangle

$\Rightarrow x = ?$

$\sqrt{23}$

3.



ABCD dikdörtgen

ABCD rectangle

EFCK kare

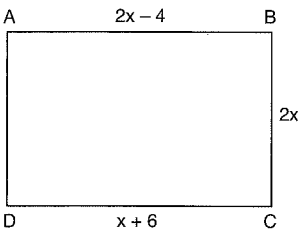
EFCK square

$\Rightarrow x = ?$

$\sqrt{2}$

PUZA YAYINLARI

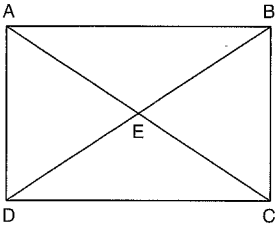
1.



ABCD dikdörtgen
ABCD rectangle
$|AB| = (2x - 4)$ br
$|DC| = (x + 6)$ br
$|BC| = (2x)$ br
$\Rightarrow$ Ç(ABCD) = ?

A) 10 B) 16 C) 20 D) 36 E) 72

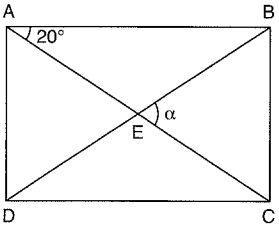
2.



ABCD dikdörtgen
ABCD rectangle
$|AE| = 10$ br
$|BE| = (2x + 4)$ br
$\Rightarrow x = ?$

A) 2 B) 3 C) 4 D) 5 E) 6

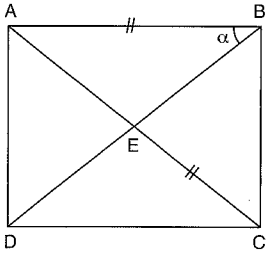
3.



ABCD dikdörtgen
ABCD rectangle
$m(\widehat{BAC}) = 20°$
$\Rightarrow m(\widehat{BEC}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 50 E) 60

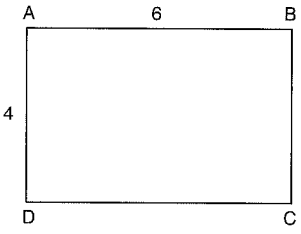
4.



ABCD dikdörtgen
ABCD rectangle
$|AB| = |EC|$
$\Rightarrow m(\widehat{ABD}) = \alpha = ?$

A) 15 B) 30 C) 45 D) 60 E) 75

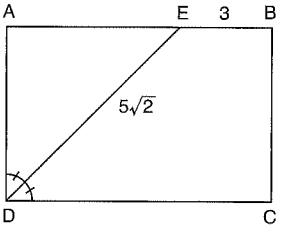
5.



ABCD dikdörtgen
ABCD rectangle
$|AB| = 6$ br
$|AD| = 4$ br
$\Rightarrow$ A(ABCD) = ?

A) 6 B) 10 C) 12 D) 20 E) 24

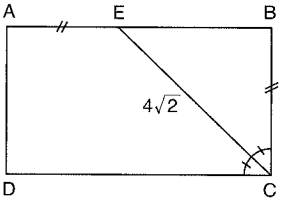
6.



ABCD dikdörtgen
ABCD rectangle
$|EB| = 3$ br
$|DE| = 5\sqrt{2}$ br
$m(\widehat{ADE}) = m(\widehat{EDC})$
$\Rightarrow$ A(ABCD) = ?

A) 15 B) 20 C) 24 D) 35 E) 40

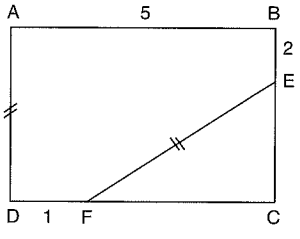
7.



ABCD dikdörtgen
ABCD rectangle
$|AE| = |BC|$
$|EC| = 4\sqrt{2}$ br
$m(\widehat{DCE}) = m(\widehat{ECB})$
$\Rightarrow$ A(ABCD) = ?

A) 16 B) 28 C) 32 D) 36 E) 40

8.

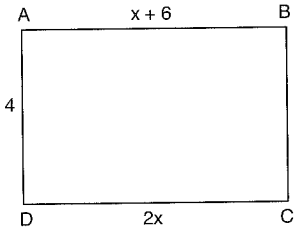


ABCD dikdörtgen
ABCD rectangle
$|AD| = |EF|$
$|AB| = 5$ br
$|BE| = 2$ br
$|DF| = 1$ br
$\Rightarrow$ A(ABCD) = ?

A) 20 B) 25 C) 30 D) 35 E) 40

PUZA YAYINLARI

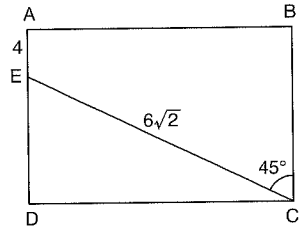
9.



ABCD dikdörtgen
ABCD rectangle
$|AB| = (x + 6)$ br
$|AD| = 4$ br
$|DC| = (2x)$ br
$\Rightarrow$ A(ABCD) = ?

A) 36 B) 40 C) 48 D) 50 E) 56

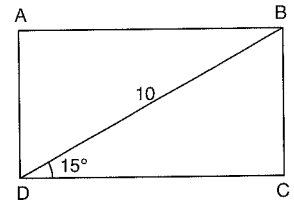
10.



ABCD dikdörtgen
ABCD rectangle
$|AE| = 4$ br
$|EC| = 6\sqrt{2}$ br
$m(\widehat{ECB}) = 45°$
$\Rightarrow$ A(ABCD) = ?

A) 60 B) 56 C) 48 D) 44 E) 40

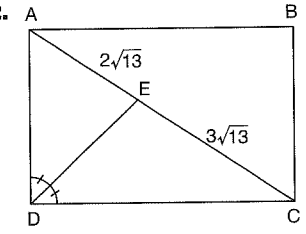
11.



ABCD dikdörtgen
ABCD rectangle
$|BD| = 10$ br
$m(\widehat{BDC}) = 15°$
$\Rightarrow$ A(ABCD) = ?

A) $\frac{25}{2}$ B) 20 C) 25 D) 30 E) 35

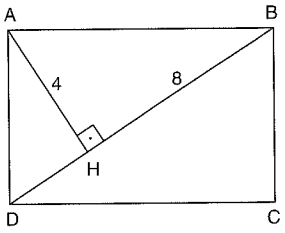
12.



ABCD dikdörtgen
ABCD rectangle
[DE] açıortay
[DE] bisector
$|AE| = 2\sqrt{13}$ br
$|EC| = 3\sqrt{13}$ br
$\Rightarrow$ A(ABCD) = ?

A) 100 B) 120 C) 130 D) 140 E) 150

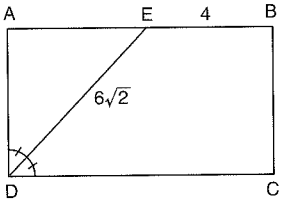
13.



ABCD dikdörtgen
ABCD rectangle
$[AH] \perp [BD]$
$|AH| = 4$ br
$|BH| = 8$ br
$\Rightarrow$ Ç(ABCD) = ?

A) $4\sqrt{5}$ B) $8\sqrt{5}$ C) $10\sqrt{5}$ D) $12\sqrt{5}$ E) $18\sqrt{5}$

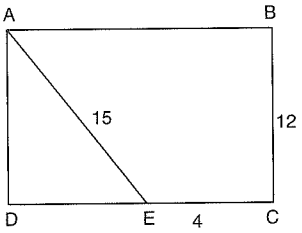
14.



ABCD dikdörtgen
ABCD rectangle
$m(\widehat{ADE}) = m(\widehat{EDC})$
$|EB| = 4$ br
$|DE| = 6\sqrt{2}$ br
$\Rightarrow$ Ç(ABCD) = ?

A) 24 B) 30 C) 32 D) 36 E) 40

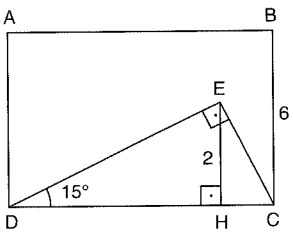
15.



ABCD dikdörtgen
ABCD rectangle
$|AE| = 15$ br
$|EC| = 4$ br
$|BC| = 12$ br
$\Rightarrow$ Ç(ABCD) = ?

A) 30 B) 40 C) 50 D) 60 E) 70

16.



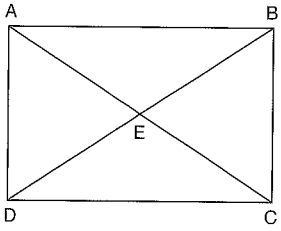
ABCD dikdörtgen
ABCD rectangle
$[EH] \perp [DC]$
$[DE] \perp [EC]$
$|BC| = 6$ br
$|EH| = 2$ br
$m(\widehat{EDC}) = 15°$
$\Rightarrow$ Ç(ABCD) = ?

A) 16 B) 20 C) 26 D) 28 E) 30

PUZA YAYINLARI

www.ztcprep.com

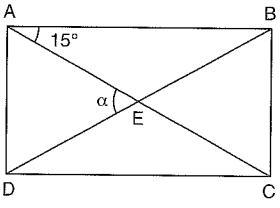
1.



ABCD dikdörtgen
ABCD rectangle
$|AE| = (3x - 4)$ br
$|DE| = (x + 2)$ br
$\Rightarrow |AC| = ?$

A) 3 B) 6 C) 10 D) 12 E) 15

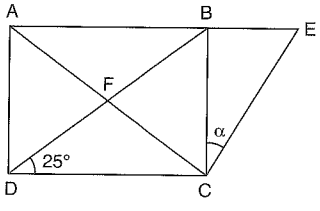
2.



ABCD dikdörtgen
ABCD rectangle
$m(\widehat{BAC}) = 15°$
$\Rightarrow m(\widehat{AED}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 50 E) 60

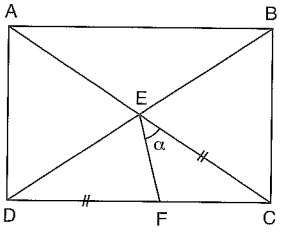
3.



ABCD dikdörtgen
ABCD rectangle
$|BD| = |EC|$
$m(\widehat{BDC}) = 25°$
$\Rightarrow m(\widehat{BCE}) = \alpha = ?$

A) 25 B) 35 C) 45 D) 55 E) 65

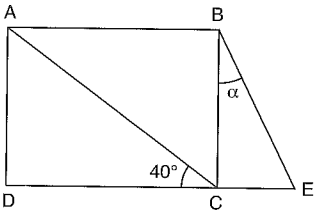
4.



ABCD dikdörtgen
ABCD rectangle
$|EC| = |DF|$
$m(\widehat{DCA}) = 20°$
$\Rightarrow m(\widehat{FEC}) = \alpha = ?$

A) 60 B) 70 C) 75 D) 80 E) 85

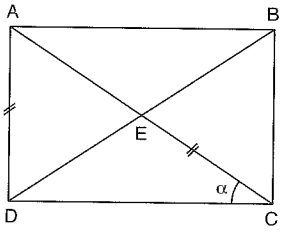
5.



ABCD dikdörtgen
ABCD rectangle
$|BE| = |AC|$
$m(\widehat{ACD}) = 40°$
$\Rightarrow m(\widehat{CBE}) = \alpha = ?$

A) 10 B) 20 C) 30 D) 40 E) 50

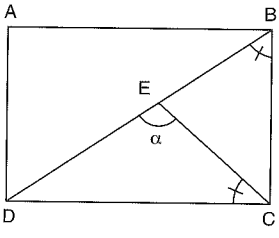
6.



ABCD dikdörtgen
ABCD rectangle
$|AD| = |EC|$
$\Rightarrow m(\widehat{ACD}) = \alpha = ?$

A) 15 B) 20 C) 30 D) 45 E) 75

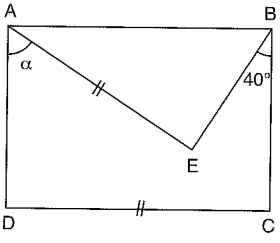
7.



ABCD dikdörtgen
ABCD rectangle
$m(\widehat{DBC}) = m(\widehat{ECD})$
$\Rightarrow m(\widehat{DEC}) = \alpha = ?$

A) 30 B) 45 C) 60 D) 75 E) 90

8.



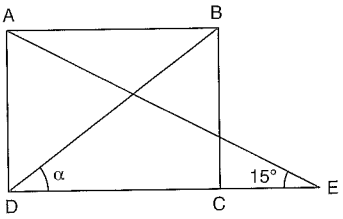
ABCD dikdörtgen
ABCD rectangle
$m(\widehat{EBC}) = 40°$
$|AE| = |DC|$
$\Rightarrow m(\widehat{DAE}) = \alpha = ?$

A) 10 B) 20 C) 30 D) 40 E) 50

PUZA YAYINLARI

www.ztcprep.com

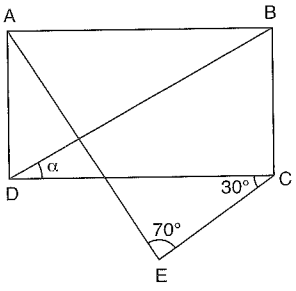
9.



ABCD dikdörtgen
ABCD rectangle
$|BD| = |CE|$
$m(\widehat{AED}) = 15°$
$\Rightarrow m(\widehat{BDE}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 50 E) 60

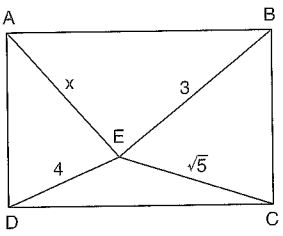
10.



ABCD dikdörtgen
ABCD rectangle
$|BD| = |AE|$
$m(\widehat{DCE}) = 30°$
$m(\widehat{AEC}) = 70°$
$\Rightarrow m(\widehat{BDC}) = \alpha = ?$

A) 50 B) 40 C) 35 D) 30 E) 25

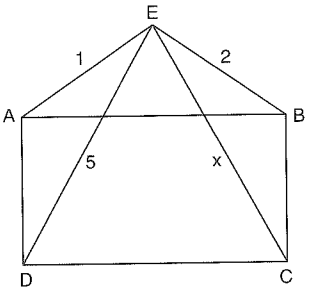
11.



ABCD dikdörtgen
ABCD rectangle
$|EC| = \sqrt{5}$ br
$|BE| = 3$ br
$|DE| = 4$ br
$\Rightarrow |AE| = x = ?$

A) $\sqrt{6}$ B) $2\sqrt{5}$ C) $\sqrt{5}$ D) $2\sqrt{6}$ E) $2\sqrt{3}$

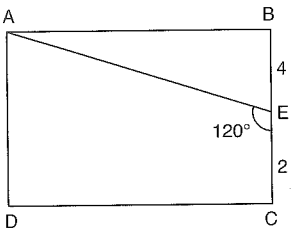
12.



ABCD dikdörtgen
ABCD rectangle
$|AE| = 1$ br
$|BE| = 2$ br
$|DE| = 5$ br
$\Rightarrow |CE| = x = ?$

A) $\sqrt{5}$ B) $\sqrt{7}$ C) $2\sqrt{5}$ D) $2\sqrt{7}$ E) 7

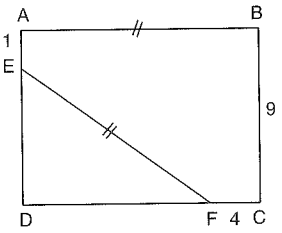
13.



ABCD dikdörtgen
ABCD rectangle
$|BE| = 4$ br
$|EC| = 2$ br
$m(\widehat{AEC}) = 120°$
$\Rightarrow$ Ç(ABCD) = ?

A) $8\sqrt{3}+12$ B) $8\sqrt{3}+6$ C) $4\sqrt{3}+12$ D) $4\sqrt{3}+6$ E) $24\sqrt{3}$

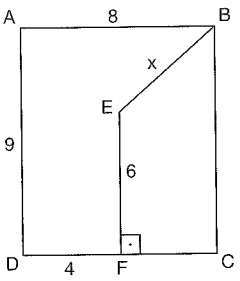
14.



ABCD dikdörtgen
ABCD rectangle
$|AE| = 1$ br
$|FC| = 4$ br
$|BC| = 9$ br
$|AB| = |EF|$
$\Rightarrow$ Ç(ABCD) = ?

A) 10 B) 20 C) 28 D) 30 E) 38

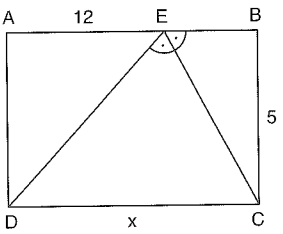
15.



ABCD dikdörtgen
ABCD rectangle
$[EF] \perp [DC]$
$|AB| = 8$ br
$|AD| = 9$ br
$|DF| = 4$ br
$|EF| = 6$ br
$\Rightarrow |EB| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

16.



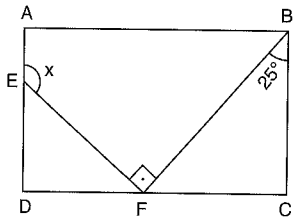
ABCD dikdörtgen
ABCD rectangle
$m(\widehat{DEC}) = m(\widehat{CEB})$
$|AE| = 12$ br
$|BC| = 5$ br
$\Rightarrow |DC| = x = ?$

A) 6 B) 7 C) 10 D) 13 E) 15

PUZA YAYINLARI

www.ztcprep.com

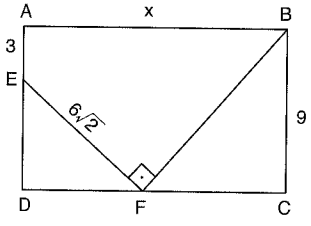
1.



ABCD dikdörtgen
ABCD rectangle
[EF] ⊥ [BF]
$m(\widehat{FBC}) = 25°$
$\Rightarrow m(\widehat{AEF}) = x = ?$

A) 120 B) 115 C) 110 D) 100 E) 95

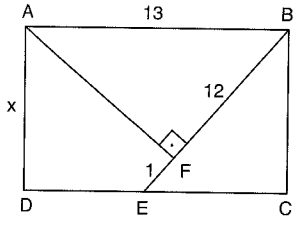
2.



ABCD dikdörtgen
ABCD rectangle
|AE| = 3 br
|BC| = 9 br
$|EF| = 6\sqrt{2}$ br
[EF] ⊥ [BF]
⇒|AB| = x = ?

A) 6 B) 10 C) 15 D) 16 E) 18

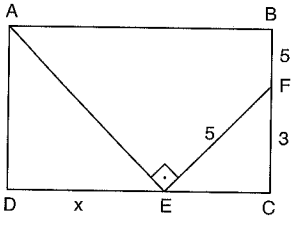
3.



ABCD dikdörtgen
ABCD rectangle
|AB| = 13 br
|BF| = 12 br
|EF| = 1 br
[AF] ⊥ [BE]
⇒ |AD| = x = ?

A) 5 B) 6 C) 7 D) 8 E) 9

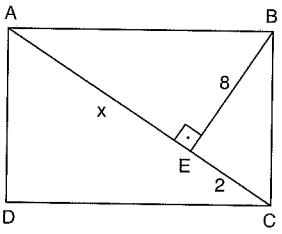
4.



ABCD dikdörtgen
ABCD rectangle
[AE] ⊥ [EF]
|EF| = |BF| = 5 br
|FC| = 3 br
⇒|DE| = x = ?

A) 2 B) 3 C) 4 D) 5 E) 6

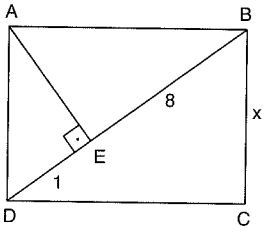
5.



ABCD dikdörtgen
ABCD rectangle
|BE| = 8 br
|EC| = 2 br
[BE] ⊥ [AC]
⇒ |AE| = x = ?

A) 1 B) 2 C) 16 D) 32 E) 36

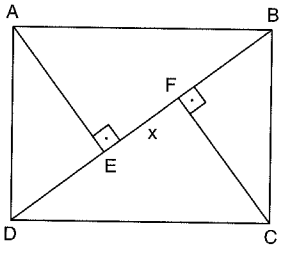
6.



ABCD dikdörtgen
ABCD rectangle
[AE] ⊥ [BD]
|BE| = 8 br
|DE| = 1 br
⇒|BC| = x = ?

A) $\sqrt{2}$ B) $2\sqrt{2}$ C) 3 D) 4 E) $4\sqrt{2}$

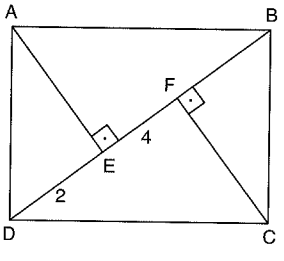
7.



ABCD dikdörtgen
ABCD rectangle
[CF] ⊥ [BD]
[AE] ⊥ [BD]
|CF| = 6 br
|DF| = 12 br
⇒|EF| = x = ?

A) 3 B) 6 C) 8 D) 9 E) 11

8.

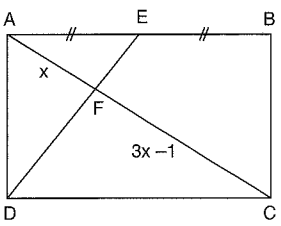


ABCD dikdörtgen
ABCD rectangle
[CF] ⊥ [BD]
[AE] ⊥ [BD]
|DE| = 2 br
|EF| = 4 br
⇒ A(ABCD) = ?

A) $4\sqrt{3}$ B) $8\sqrt{3}$ C) $16\sqrt{3}$ D) $20\sqrt{3}$ E) $24\sqrt{3}$

PUZA YAYINLARI

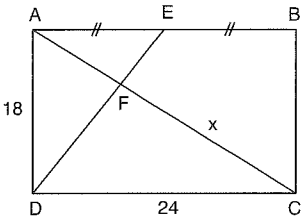
9.



ABCD dikdörtgen
ABCD rectangle
$|AE| = |EB|$
$|FC| = (3x - 1)$ br
$\Rightarrow |AF| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

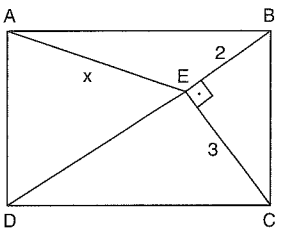
10.



ABCD dikdörtgen
ABCD rectangle
$|AE| = |EB|$
$|AD| = 18$ br
$|DC| = 24$ br
$\Rightarrow |FC| = x = ?$

A) 19 B) 20 C) 21 D) 22 E) 23

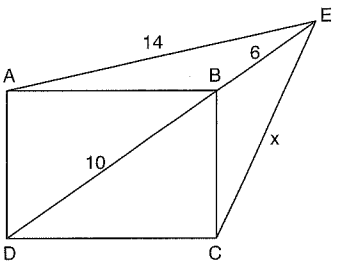
11.



ABCD dikdörtgen
ABCD rectangle
[BD] köşegen
[BD] diagonal line
$[CE] \perp [BD]$
$|CE| = 3$ br
$|BE| = 2$ br
$\Rightarrow |AE| = x = ?$

A) $\frac{\sqrt{13}}{2}$ B) $\sqrt{13}$ C) $\frac{\sqrt{61}}{4}$ D) $\frac{\sqrt{61}}{2}$ E) $\sqrt{61}$

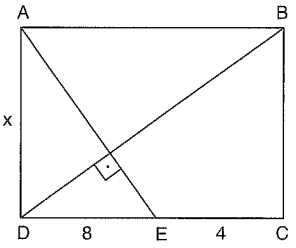
12.



ABCD dikdörtgen
ABCD rectangle
$|AE| = 14$ br
$|BD| = 10$ br
$|BE| = 6$ br
$\Rightarrow |CE| = x = ?$

A) 100 B) $4\sqrt{6}$ C) 9 D) $6\sqrt{2}$ E) 8

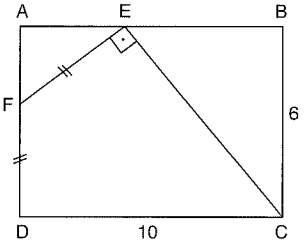
13.



ABCD dikdörtgen
ABCD rectangle
$[AE] \perp [BD]$
$|DE| = 8$ br
$|EC| = 4$ br
$\Rightarrow |AD| = x = ?$

A) 2 B) $\sqrt{6}$ C) $2\sqrt{6}$ D) 6 E) $4\sqrt{6}$

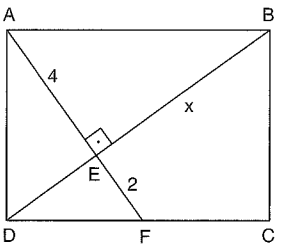
14.



ABCD dikdörtgen
ABCD rectangle
$[CE] \perp [EF]$
$|EF| = |FD|$
$|DC| = 10$ br
$|BC| = 6$ br
$\Rightarrow A(AEF) = ?$

A) 10 B) 8 C) 4 D) $\frac{8}{3}$ E) 2

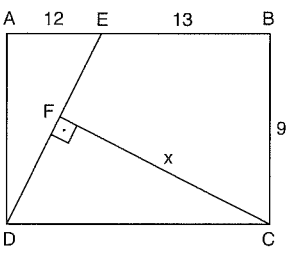
15.



ABCD dikdörtgen
ABCD rectangle
$[AF] \perp [BD]$
$|AE| = 4$ br
$|EF| = 2$ br
$\Rightarrow |BE| = x = ?$

A) $2\sqrt{2}$ B) $4\sqrt{2}$ C) $8\sqrt{2}$ D) 9 E) $9\sqrt{2}$

16.

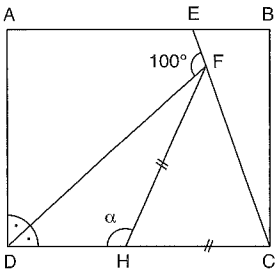


ABCD dikdörtgen
ABCD rectangle
$[CF] \perp [DE]$
$|BE| = 13$ br
$|EA| = 12$ br
$|BC| = 9$ br
$\Rightarrow |CF| = x = ?$

A) 10 B) 12 C) 13 D) 15 E) 16

PUZA YAYINLARI

1.



ABCD dikdörtgen

ABCD rectangle

$|HF| = |HC|$

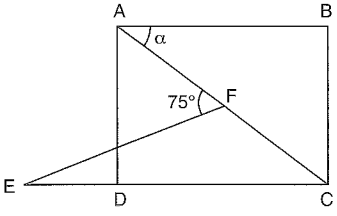
$m(\widehat{ADF}) = m(\widehat{FDC})$

$m(\widehat{EFD}) = 100°$

$\Rightarrow m(\widehat{DHF}) = \alpha = ?$

A) 100 B) 110 C) 115 D) 120 E) 125

2.



ABCD dikdörtgen

ABCD rectangle

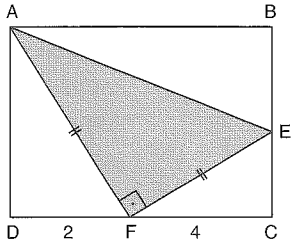
$|AF| = |FC| = |ED|$

$m(\widehat{AFE}) = 75°$

$\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 20 B) 25 C) 30 D) 45 E) 50

3.



ABCD dikdörtgen

ABCD rectangle

$[AF] \perp [FE]$

$|AF| = |FE|$

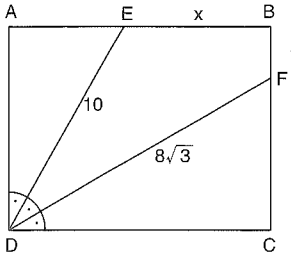
$|DF| = 2$ br

$|FC| = 4$ br

$\Rightarrow A(AFE) = ?$

A) 10 B) 8 C) 6 D) 5 E) 4

4.



ABCD dikdörtgen

ABCD rectangle

$m(\widehat{ADE}) = m(\widehat{EDF}) = m(\widehat{FDC})$

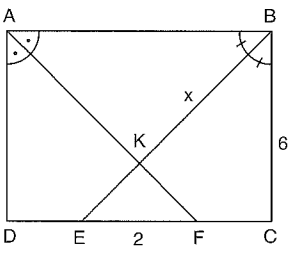
$|DF| = 8\sqrt{3}$ br

$|DE| = 10$ br

$\Rightarrow |EB| = x = ?$

A) $4\sqrt{3}$ B) 7 C) 12 D) 14 E) 16

5.



ABCD dikdörtgen

ABCD rectangle

$m(\widehat{DAF}) = m(\widehat{FAB})$

$m(\widehat{ABE}) = m(\widehat{EBC})$

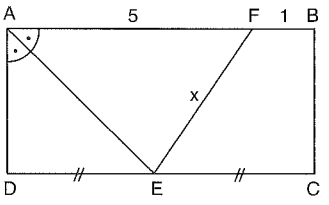
$|EF| = 2$ br

$|BC| = 6$ br

$\Rightarrow |BK| = x = ?$

A) $\sqrt{2}$ B) $3\sqrt{2}$ C) $5\sqrt{2}$ D) 10 E) 12

6.



ABCD dikdörtgen

ABCD rectangle

$m(\widehat{DAE}) = m(\widehat{EAB})$

$|DE| = |EC|$

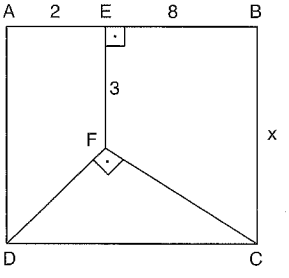
$|AF| = 5$ br

$|FB| = 1$ br

$\Rightarrow |EF| = x = ?$

A) 3 B) $3\sqrt{2}$ C) $\sqrt{13}$ D) $\sqrt{15}$ E) $\sqrt{21}$

7.



ABCD dikdörtgen

ABCD rectangle

$[EF] \perp [AB]$

$[DF] \perp [FC]$

$|AE| = 2$ br

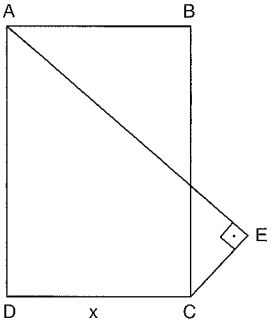
$|EB| = 8$ br

$|EF| = 3$ br

$\Rightarrow |BC| = x = ?$

A) 6 B) 7 C) 8 D) 9 E) 10

8.



ABCD dikdörtgen

ABCD rectangle

$[AE] \perp [CE]$

$|AE| = 7$ br

$|CE| = 5$ br

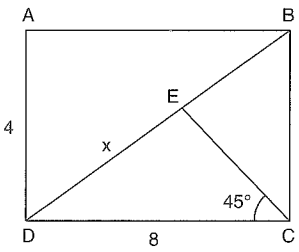
$|AD| = 8$ br

$\Rightarrow |DC| = x = ?$

A) $\sqrt{2}$ B) $\sqrt{3}$ C) $\sqrt{5}$ D) $\sqrt{7}$ E) $\sqrt{10}$

PUZA YAYINLARI

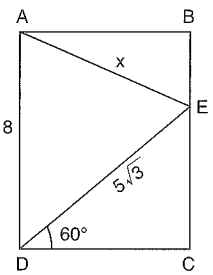
9.



ABCD dikdörtgen
ABCD rectangle
$m(\widehat{DCE}) = 45°$
$|DC| = 8$ br
$|AD| = 4$ br
$\Rightarrow |DE| = x = ?$

A) 24 B) 16 C) $8\sqrt{5}$ D) $4\sqrt{5}$ E) $\frac{8\sqrt{5}}{3}$

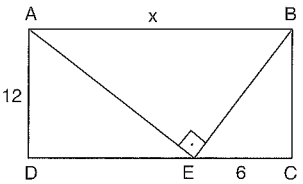
10.



ABCD dikdörtgen
ABCD rectangle
$m(\widehat{EDC}) = 60°$
$|AD| = 8$ br
$|DE| = 5\sqrt{3}$ br
$\Rightarrow |AE| = x = ?$

A) 6 B) 5 C) $\sqrt{21}$ D) $\sqrt{19}$ E) $\sqrt{15}$

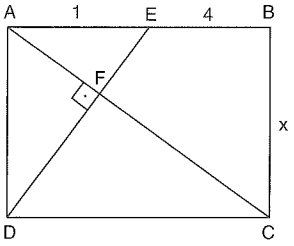
11.



ABCD dikdörtgen
ABCD rectangle
$[AE] \perp [BE]$
$|AD| = 12$ br
$|EC| = 6$ br
$\Rightarrow |AB| = x = ?$

A) 12 B) $12\sqrt{5}$ C) 30 D) $30\sqrt{5}$ E) 32

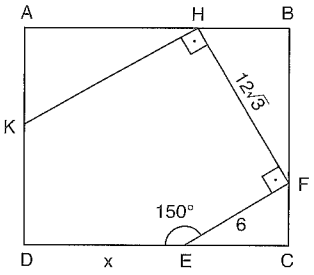
12.



ABCD dikdörtgen
ABCD rectangle
$[DF] \perp [AC]$
$|AE| = 1$ br
$|EB| = 4$ br
$\Rightarrow |BC| = x = ?$

A) $\sqrt{5}$ B) 3 C) $\frac{7}{2}$ D) 4 E) $\frac{9}{2}$

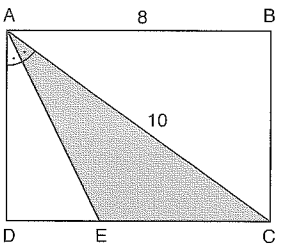
13.



ABCD dikdörtgen
ABCD rectangle
$[KH] \perp [HF]$
$[EF] \perp [HF]$
$m(\widehat{DEF}) = 150°$
$|EF| = 6$ br
$|HF| = 12\sqrt{3}$ br
$|AK| = 2|KD|$
$\Rightarrow |DE| = x = ?$

A) $4\sqrt{3}$ B) $6\sqrt{3}$ C) $10\sqrt{3}$ D) $11\sqrt{3}$ E) $17\sqrt{3}$

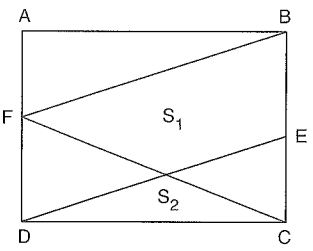
14.



ABCD dikdörtgen
ABCD rectangle
$m(\widehat{DAE}) = m(\widehat{EAC})$
$|AC| = 10$ br
$|AB| = 8$ br
$\Rightarrow A(AEC) = ?$

A) 12 B) 15 C) 20 D) 25 E) 30

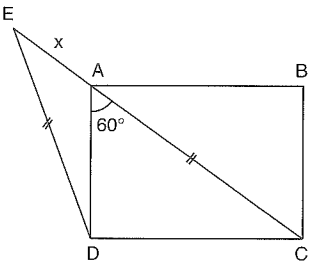
15.



ABCD dikdörtgen
ABCD rectangle
FBED paralelkenar
FBED parallelogram
$S_1 + S_2 = 18$ br^2
$|BE| = 3|EC|$
$\Rightarrow A(ABCD) = ?$

A) 16 B) 24 C) 32 D) 36 E) 40

16.



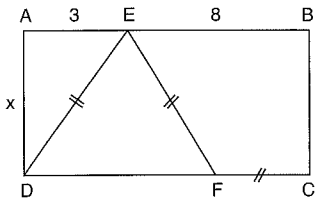
ABCD dikdörtgen
ABCD rectangle
$m(\widehat{DAC}) = 60°$
$|ED| = |AC|$
$|BC| = 4$ br
$\Rightarrow |EA| = x = ?$

A) $\frac{\sqrt{13}}{2}$ B) $\sqrt{13}$ C) $2 - 2\sqrt{13}$ D) $2\sqrt{13}$ E) $-2 + 2\sqrt{13}$

PUZA YAYINLARI

www.ztcprep.com

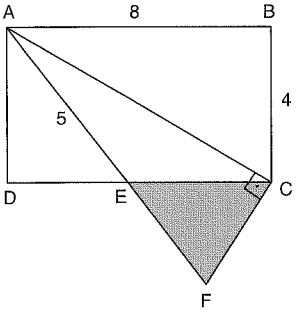
1.



ABCD dikdörtgen
ABCD rectangle
$|DE| = |EF| = |FC|$
$|AE| = 3$ br
$|EB| = 8$ br
$\Rightarrow |AD| = x = ?$

A) 3 B) 4 C) 5 D) 6 E) 7

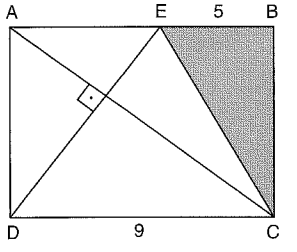
2.



ABCD dikdörtgen
ABCD rectangle
$[AC] \perp [CF]$
$|AE| = 5$ br
$|BC| = 4$ br
$|AB| = 8$ br
$\Rightarrow A(EFC) = ?$

A) 5 B) $4\sqrt{5}$ C) 10 D) $10\sqrt{5}$ E) 20

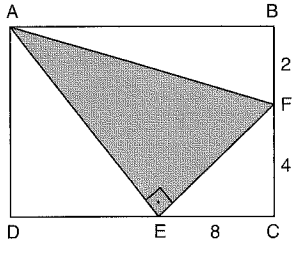
3.



ABCD dikdörtgen
ABCD rectangle
$[AC] \perp [DE]$
$|EB| = 5$ br
$|DC| = 9$ br
$\Rightarrow A(EBC) = ?$

A) 10 B) 15 C) 20 D) 25 E) 30

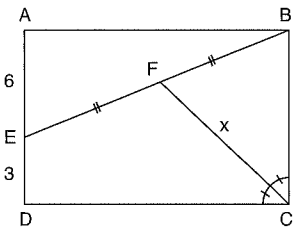
4.



ABCD dikdörtgen
ABCD rectangle
$[AE] \perp [EF]$
$|BF| = 2$ br
$|FC| = 4$ br
$|EC| = 8$ br
$\Rightarrow A(AEF) = ?$

A) 15 B) 20 C) 25 D) 30 E) 60

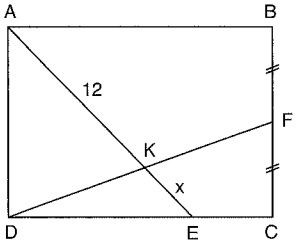
5.



ABCD dikdörtgen
ABCD rectangle
$|EF| = |FB|$
$m(\widehat{DCF}) = m(\widehat{FCB})$
$|AE| = 6$ br
$|ED| = 3$ br
$\Rightarrow |FC| = x = ?$

A) 3 B) 6 C) $6\sqrt{2}$ D) $6\sqrt{3}$ E) 12

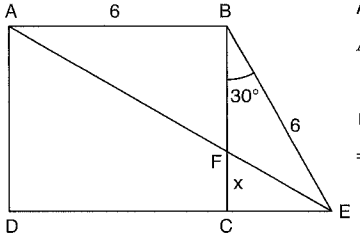
6.



ABCD dikdörtgen
ABCD rectangle
$|BF| = |FC|$
$|DE| = 2|EC|$
$|AK| = 12$ br
$\Rightarrow |KE| = x = ?$

A) 12 B) 10 C) 8 D) 6 E) 4

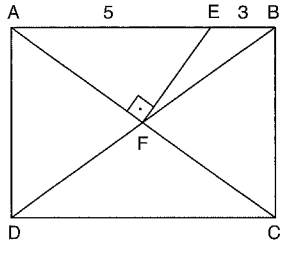
7.



ABCD dikdörtgen
ABCD rectangle
$|AB| = |BE| = 6$ br
$m(\widehat{CBE}) = 30°$
$\Rightarrow |FC| = x = ?$

A) $\frac{\sqrt{2}}{2}$ B) $\frac{\sqrt{3}}{2}$ C) $\sqrt{2}$ D) $\sqrt{3}$ E) $2\sqrt{3}$

8.



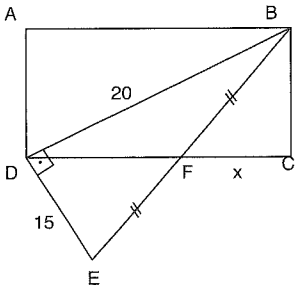
ABCD dikdörtgen
ABCD rectangle
$|AE| = 5$ br
$|EB| = 3$ br
$[AF] \perp [FE]$
$\Rightarrow A(ABCD) = ?$

A) 16 B) 28 C) 32 D) 48 E) 64

PUZA YAYINLARI

www.ztcprep.com

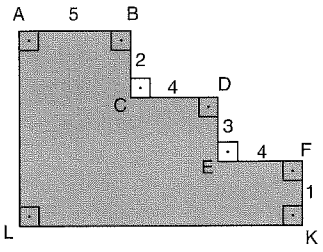
9.



ABCD dikdörtgen
ABCD rectangle
[BD] ⊥ [DE]
|EF| = |FB|
|DB| = 20 br
|DE| = 15 br
⇒|FC| = x = ?

A) 2 B) 3,5 C) 5 D) 7,5 E) 10

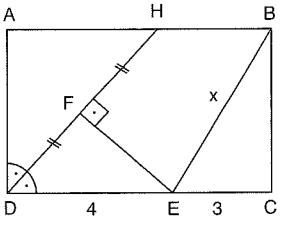
10.



|AB| = 5 br
|CD| = |EF| = 4 br
|DE| = 3 br
|BC| = 2 br
|FK| = 1 br
⇒ Taralı alan = ?
Shaded area = ?

A) 48 B) 50 C) 51 D) 52 E) 54

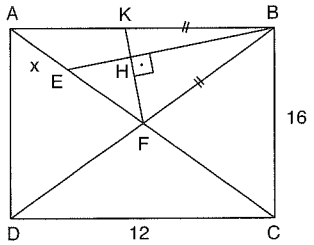
11.



ABCD dikdörtgen
ABCD rectangle
[EF] ⊥ [DH]
|DF| = |FH|
|DE| = 4 br
|EC| = 3 br
⇒|BE| = x = ?

A) 1 B) 2 C) 3 D) 4 E) 5

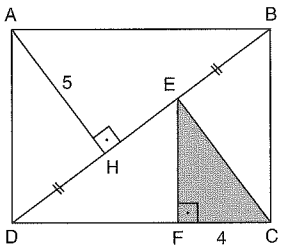
12.



ABCD dikdörtgen
ABCD rectangle
[BH] ⊥ [KF]
|KB| = |FB|
|BC| = 16 br
|DC| = 12 br
⇒|AE| = x = ?

A) 1 B) $\frac{7}{5}$ C) $\frac{18}{7}$ D) $\frac{25}{11}$ E) $\frac{60}{11}$

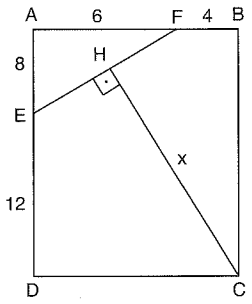
13.



ABCD dikdörtgen
ABCD rectangle
|DH| = |EB|
[AH] ⊥ [DB]
[EF] ⊥ [DC]
|FC| = 4 br
|AH| = 5 br
⇒ A(EFC) = ?

A) 2 B) 4 C) 6 D) 8 E) 12

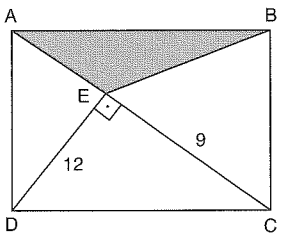
14.



ABCD dikdörtgen
ABCD rectangle
[CH] ⊥ [EF]
|AF| = 6 br
|FB| = 4 br
|AE| = 8 br
|ED| = 12 br
⇒|CH| = x = ?

A) 20 B) 18 C) 16 D) 15,2 E) 11,2

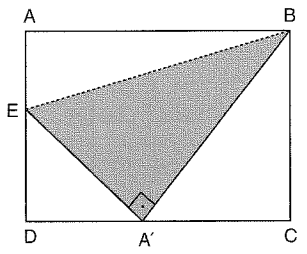
15.



ABCD dikdörtgen
ABCD rectangle
[DE] ⊥ [AC]
|EC| = 9 br
|DE| = 12 br
⇒ A(AEB) = ?

A) 54 B) 72 C) 84 D) 96 E) 184

16.



ABCD dikdörtgen
ABCD rectangle
[EA´] ⊥ [BA´]
|AB| = 17 br
|BC| = 8 br

A noktası $\overrightarrow{EB}$ doğrusu üzerinde katlanarak [DC] kenarı üzerinde A´ noktasına getiriliyor.

Point A is folded over $\overrightarrow{EB}$ line and corresponds to point A´ over [DC] edge.

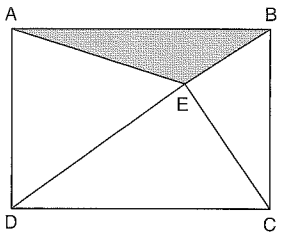
⇒ A(EA'B) = ?

A) $\frac{17}{4}$ B) $\frac{289}{4}$ C) $\frac{289}{8}$ D) 15 E) 18

PUZA YAYINLARI

www.ztcprep.com

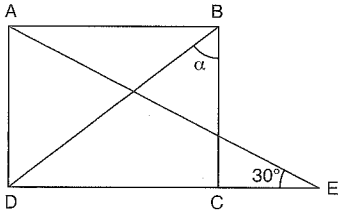
1.



ABCD dikdörtgen
ABCD rectangle
A(AED) = 12 br²
A(DEC) = 10 br²
A(BEC) = 6 br²
⇒ A(ABE) = ?

A) 6 B) 8 C) 10 D) 12 E) 14

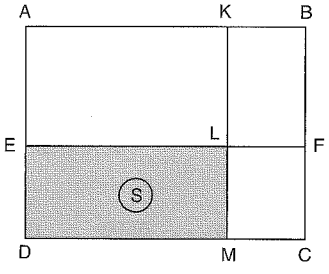
2.



ABCD dikdörtgen
ABCD rectangle
|BD| = |CE|
m(AED) = 32°
⇒ m(DBC) = α = ?

A) 16 B) 26 C) 36 D) 64 E) 70

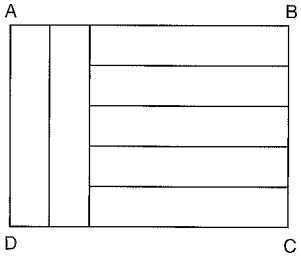
3.



ABCD dikdörtgen
ABCD rectangle
A(AKLE) = 10 br²
A(KBFL) = 5 br²
A(LFCM) = 4 br²
⇒ A(ELMD) = S = ?

A) 4 B) 8 C) 12 D) 16 E) 20

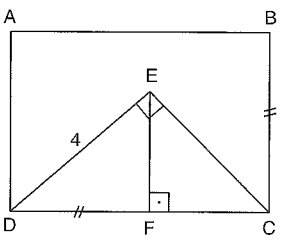
4.



Eş 7 dikdörtgen şekildeki gibi belirtiliyor. Bu dikdörtgenlerden bir tanesinin alanı 20 br²'dir.
The rhombohedrons are specifed as in figure. If one of the surface area of these rhombohedrons is 20 unit²
⇒ Ç(ABCD) = ?

A) 20 B) 22 C) 24 D) 40 E) 48

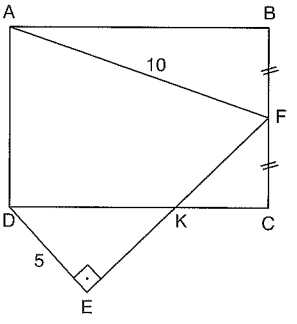
5.



ABCD dikdörtgen
ABCD rectangle
[DE] ⊥ [EC]
[EF] ⊥ [DC]
|BC| = |DF|
|DE| = 4 br
⇒ A(ABCD) = ?

A) 4 B) 8 C) 12 D) 16 E) 20

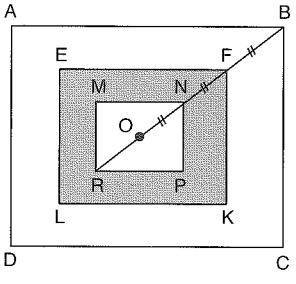
6.



ABCD dikdörtgen
ABCD rectangle
[DE] ⊥ [EF]
|BF| = |FC|
|DE| = 5 br
|AF| = 10 br
⇒ |EF| = ?

A) 5 B) $5\sqrt{2}$ C) $5\sqrt{3}$ D) 20 E) 25

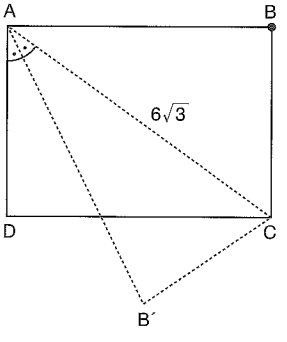
7.



ABCD, EFKL, MNPR dikdörtgen
ABCD, EFKL, MNPR rectangle
A(ABCD) = 165 br²
|ON| = |NF| = |FB|
⇒ Taralı Alan = ?
Shaded Area = ?

A) 31 B) 48 C) 55 D) 69 E) 93

8.



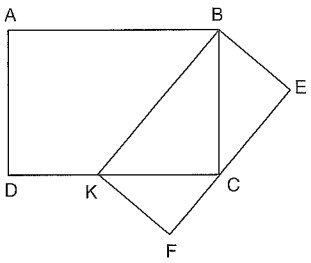
ABCD dikdörtgen
ABCD rectangle
B köşesi [AC] doğrusu üzerine katlanıyor.
Point B is folding [AC] line segment.
m(DAB´) = m(B´AC)
|AC| = $6\sqrt{3}$ br
⇒ A(ABCD) = ?

A) $9\sqrt{3}$ B) $12\sqrt{3}$ C) 16 D) $18\sqrt{3}$ E) $27\sqrt{3}$

PUZA YAYINLARI

www.ztcprep.com

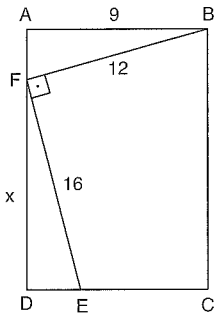
9.



ABCD ve BEFK dikdörtgen
ABCD and BEFK rectangle
$|DK| = 2|KC|$
$A(BEFK) = 16\ br^2$
$\Rightarrow A(ABCD) = ?$

A) 8 B) 16 C) 24 D) 32 E) 48

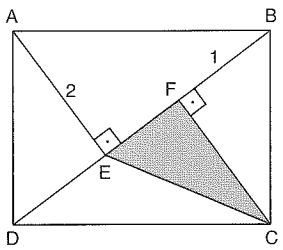
10.



ABCD dikdörtgen
ABCD rectangle
$[BF] \perp [FE]$
$|AB| = 9$ br
$|FB| = 12$ br
$|FE| = 16$ br
$\Rightarrow |FD| = x = ?$

A) $\frac{9}{2}$ B) 9 C) 12 D) 15 E) 16

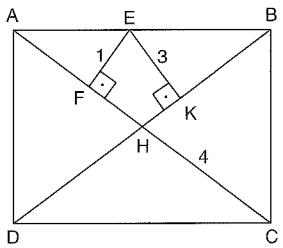
11.



ABCD dikdörtgen
ABCD rectangle
$[AE] \perp [BD]$
$[FC] \perp [BD]$
$|AE| = 2$ br
$|FB| = 1$ br
$\Rightarrow A(ECF) = ?$

A) 2 B) 3 C) 6 D) 12 E) 15

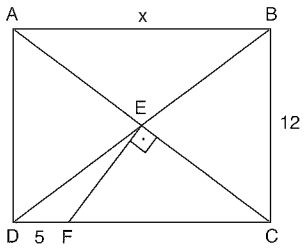
12.



ABCD dikdörtgen
ABCD rectangle
$[EF] \perp [AC]$
$[EK] \perp [BD]$
$|CH| = 4$ br
$|EK| = 3$ br
$|EF| = 1$ br
$\Rightarrow A(ABCD) = ?$

A) 8 B) 16 C) 24 D) 32 E) 40

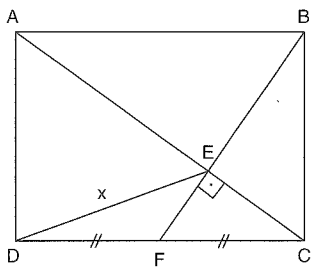
13.



ABCD dikdörtgen
ABCD rectangle
$[EF] \perp [AC]$
$|BC| = 12$ br
$|DF| = 5$ br
$\Rightarrow |AB| = x = ?$

A) 2 B) 6 C) 9 D) 12 E) 18

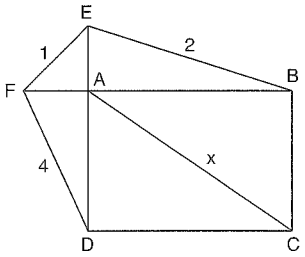
14.



ABCD dikdörtgen
ABCD rectangle
$[FE] \perp [AC]$
$|FC| = 2\sqrt{3}$ br
$|DF| = |FC|$
$\Rightarrow |DE| = x = ?$

A) $\sqrt{39}$ B) $\sqrt{37}$ C) $\sqrt{35}$ D) $\sqrt{30}$ E) $\sqrt{24}$

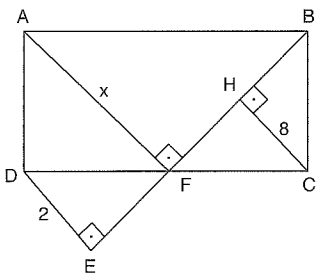
15.



ABCD dikdörtgen
ABCD rectangle
F, A, B noktaları doğrusal
F, A, B points are linear
E, A, D noktaları doğrusal
E, A, D points are linear
$|FE| = 1$ br
$|EB| = 2$ br
$|FD| = 4$ br
$\Rightarrow |AC| = x = ?$

A) 2 B) $\sqrt{5}$ C) $\sqrt{7}$ D) $\sqrt{13}$ E) $\sqrt{19}$

16.



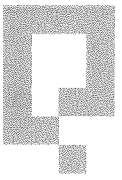
ABCD dikdörtgen
ABCD rectangle
$[AF] \perp [BE]$
$[CH] \perp [BE]$
$[DE] \perp [BE]$
$|DE| = 2$ br
$|CH| = 8$ br
$\Rightarrow |AF| = x = ?$

A) 4 B) 6 C) 8 D) 10 E) 12

PUZA YAYINLARI

www.ztcprep.com

ZTC زنگنه مجموعه موسسات



DİKDÖRTGEN RECTANGLE

Yanıt Anahtarı Answer Key

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	B	C	D	E	E	C	B	C	A	C	E	D	C	C	D

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	B	E	A	E	C	E	A	B	B	B	D	A	E	E	D

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	C	A	E	D	C	D	C	A	B	D	B	E	D	B	D

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	E	A	B	C	C	B	E	E	D	C	A	E	B	C	E

TEST 5

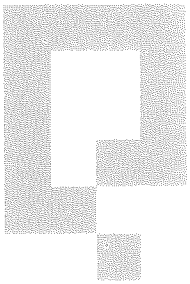
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	C	B	D	C	E	D	C	B	B	E	E	C	D	D	C

TEST 6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	B	B	E	D	C	C	E	E	C	B	D	E	E	E	D

www.ztcprep.com

زنگنه ZTC
مجموعه موسسات

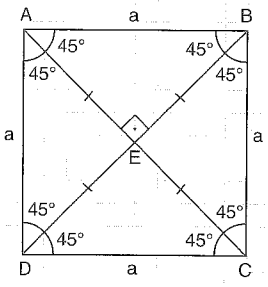


KARE

SQUARE

www.ztcprep.com

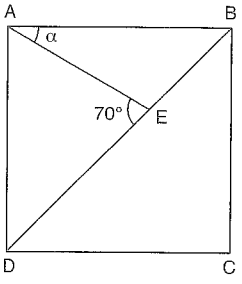
ÖZELLİK|Property 1



ABCD kare
ABCD square

Ç(ABCD) = 4a
A(ABCD) = a^2

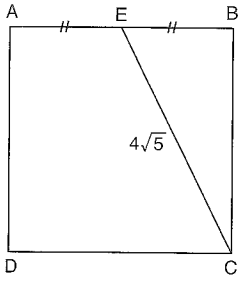
1.



ABCD kare
ABCD square
⇒ α = ?

25

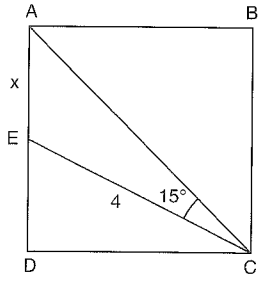
2.



ABCD kare
ABCD square
⇒ A(ABCD) = ?

64

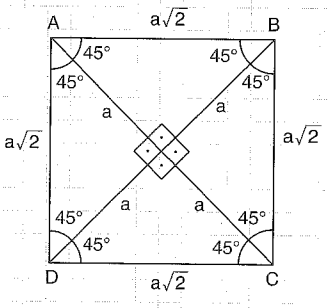
3.



ABCD kare
ABCD square
⇒ x = ?

$2\sqrt{3} - 2$

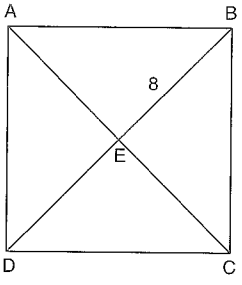
ÖZELLİK|Property 2



ABCD kare
ABCD square

Köşegenler dik kesişir.
Diagonals are intersect perpendicular.

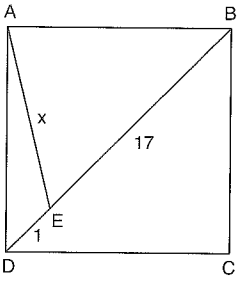
1.



ABCD kare
ABCD square
⇒ Ç(ABCD) = ?
⇒ A(ABCD) = ?

$32\sqrt{2}$, 128

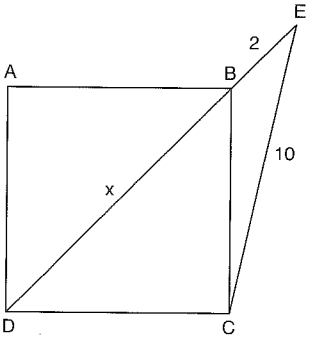
2.



ABCD kare
ABCD square
⇒ x = ?

$\sqrt{145}$

3.



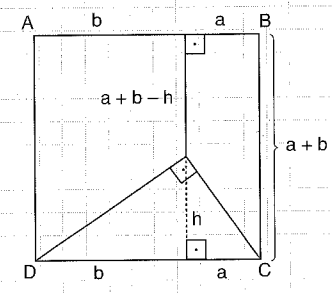
ABCD kare
ABCD square
⇒ x = ?

12

PUZA YAYINLARI

www.ztcprep.com

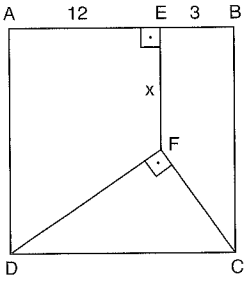
ÖZELLİK | Property 3



ABCD kare
ABCD square

$h^2 = a \cdot b$

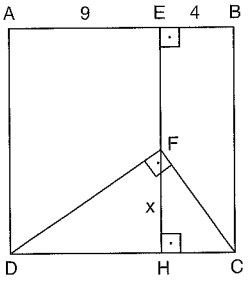
1.



ABCD kare
ABCD square
$\Rightarrow x = ?$

9

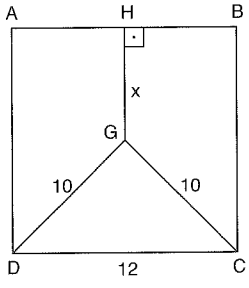
2.



ABCD kare
ABCD square
$\Rightarrow x = ?$

6

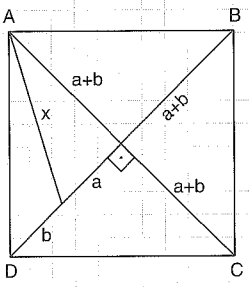
3.



ABCD kare
ABCD square
$\Rightarrow x = ?$

4

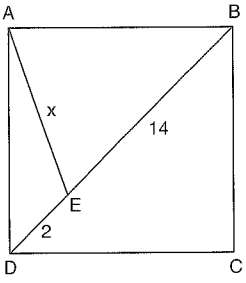
ÖZELLİK | Property 4



ABCD kare
ABCD square

$x^2 = a^2 + (a + b)^2$

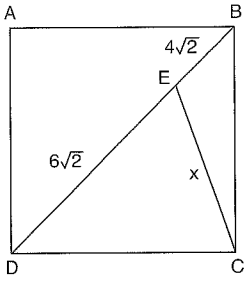
1.



ABCD kare
ABCD square
$\Rightarrow x = ?$

10

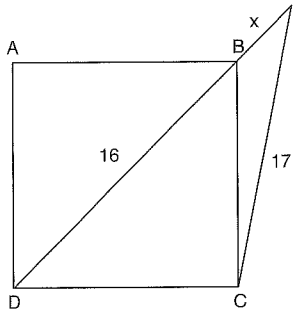
2.



ABCD kare
ABCD square
$\Rightarrow x = ?$

$2\sqrt{13}$

3.

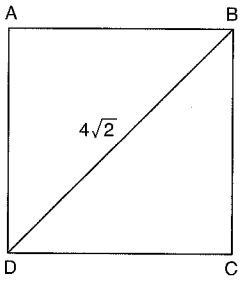


ABCD kare
ABCD square
$\Rightarrow x = ?$

7

PUZA YAYINLARI

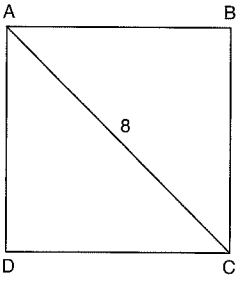
1.



ABCD kare
ABCD square
$|BD| = 4\sqrt{2}$ br
$\Rightarrow$ A(ABCD) = ?

A) 4 B) 16 C) 25 D) 32 E) 64

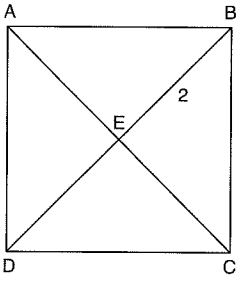
2.



ABCD kare
ABCD square
$|AC| = 8$ br
$\Rightarrow$ Ç(ABCD) = ?

A) $8\sqrt{2}$ B) 16 C) $16\sqrt{2}$ D) 32 E) $32\sqrt{2}$

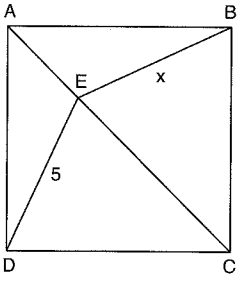
3.



ABCD kare
ABCD square
$|EB| = 2$ br
$\Rightarrow$ Ç(ABCD) = ?

A) $4\sqrt{2}$ B) 8 C) $8\sqrt{2}$ D) 16 E) $16\sqrt{2}$

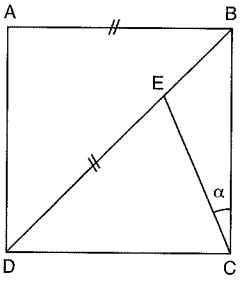
4.



ABCD kare
ABCD square
$|ED| = 5$ br
$\Rightarrow |EB| = x = ?$

A) $\frac{5}{2}$ B) 5 C) $5\sqrt{2}$ D) $5\sqrt{3}$ E) 10

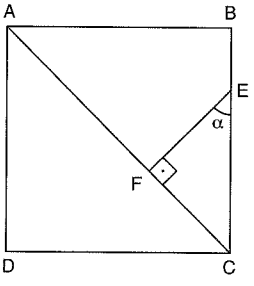
5.



ABCD kare
ABCD square
$|AB| = |ED|$
$\Rightarrow m(\widehat{ECB}) = \alpha = ?$

A) 42,5 B) 30 C) 32,5 D) 22,5 E) 12,5

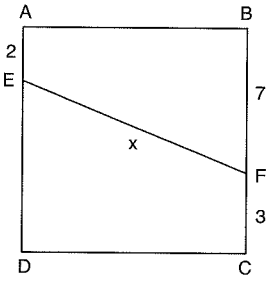
6.



ABCD kare
ABCD square
$[EF] \perp [AC]$
$\Rightarrow m(\widehat{FEC}) = \alpha = ?$

A) 15 B) 30 C) 45 D) 60 E) 75

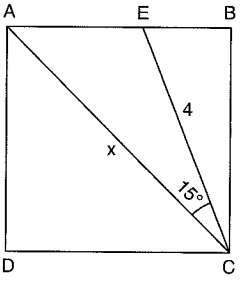
7.



ABCD kare
ABCD square
$|AE| = 2$ br
$|BF| = 7$ br
$|FC| = 3$ br
$\Rightarrow |EF| = x = ?$

A) 5 B) 6 C) 10 D) $5\sqrt{5}$ E) $10\sqrt{5}$

8.

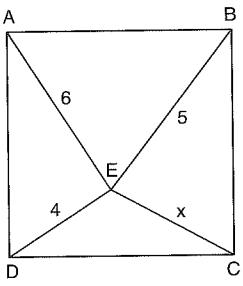


ABCD kare
ABCD square
$|EC| = 4$ br
$m(\widehat{ACE}) = 15°$
$\Rightarrow |AC| = x = ?$

A) $2\sqrt{3}$ B) $4\sqrt{3}$ C) 8 D) $2\sqrt{6}$ E) $4\sqrt{6}$

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

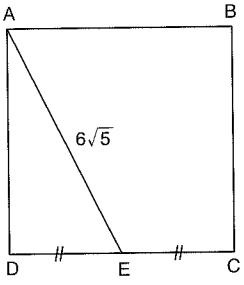
9.



ABCD kare
ABCD square
$|AE| = 6$ br
$|BE| = 5$ br
$|DE| = 4$ br
$\Rightarrow |EC| = x = ?$

A) $\sqrt{3}$ B) $\sqrt{5}$ C) 3 D) 5 E) $\frac{24}{5}$

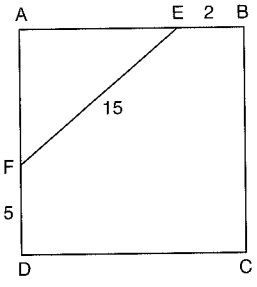
10.



ABCD kare
ABCD square
$|DE| = |EC|$
$|AE| = 6\sqrt{5}$ br
$\Rightarrow A(ABCD) = ?$

A) 36 B) 64 C) 100 D) 121 E) 144

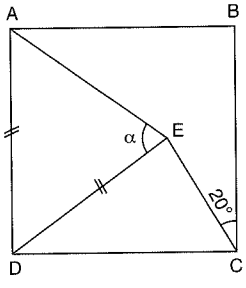
11.



ABCD kare
ABCD square
$|EB| = 2$ br
$|FE| = 15$ br
$|FD| = 5$ br
$\Rightarrow Ç(ABCD) = ?$

A) 40 B) 44 C) 48 D) 56 E) 60

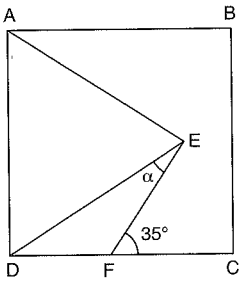
12.



ABCD kare
ABCD square
$|AD| = |DE|$
$m(\widehat{ECB}) = 20°$
$\Rightarrow m(\widehat{AED}) = \alpha = ?$

A) 40 B) 50 C) 65 D) 70 E) 135

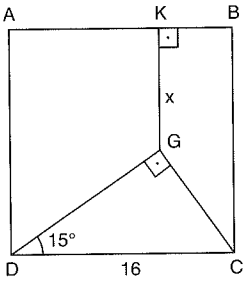
13.



ABCD kare
ABCD square
AED eşkenar üçgen
AED equilateral triangle
$m(\widehat{EFC}) = 35°$
$\Rightarrow m(\widehat{DEF}) = \alpha = ?$

A) 5 B) 10 C) 12 D) 15 E) 20

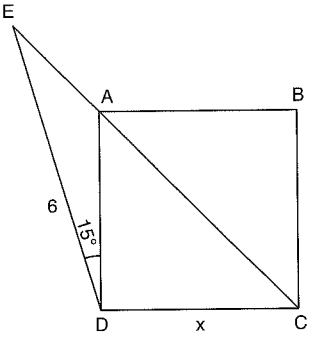
14.



ABCD kare
ABCD square
$[DG] \perp [GC]$
$[GK] \perp [AB]$
$m(\widehat{GDC}) = 15°$
$\Rightarrow |KG| = x = ?$

A) 14 B) 12 C) 8 D) 6 E) 4

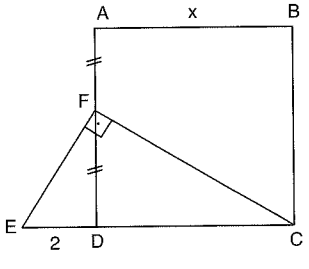
15.



ABCD kare
ABCD square
$|ED| = 6$ br
$m(\widehat{ADE}) = 15°$
$\Rightarrow |DC| = x = ?$

A) 3 B) $3\sqrt{2}$ C) $3\sqrt{3}$ D) $3\sqrt{6}$ E) 6

16.



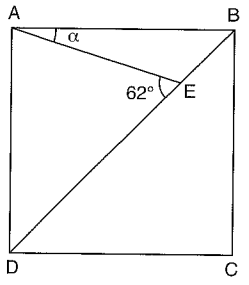
ABCD kare
ABCD square
$|AF| = |FD|$
$[EF] \perp [FC]$
$|ED| = 2$ br
$\Rightarrow |AB| = x = ?$

A) 2 B) 4 C) 6 D) 8 E) 16

PUZA YAYINLARI

www.ztcprep.com

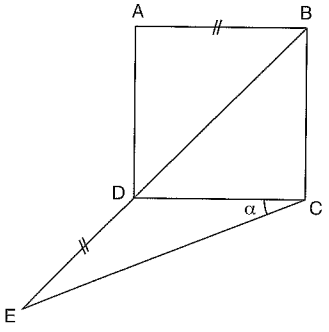
1.



ABCD kare
ABCD square
$m(\widehat{AED}) = 62°$
$\Rightarrow m(\widehat{EAB}) = \alpha = ?$

A) 12 B) 15 C) 17 D) 22 E) 27

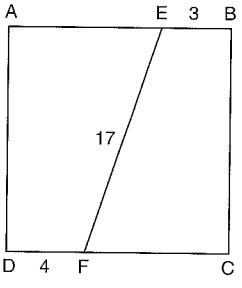
2.



ABCD kare
ABCD square
$|AB| = |DE|$
$\Rightarrow m(\widehat{DCE}) = \alpha = ?$

A) 12,5 B) 15 C) 20 D) 22,5 E) 25

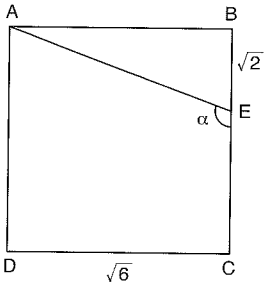
3.



ABCD kare
ABCD square
$|EB| = 3$ br
$|DF| = 4$ br
$|EF| = 17$ br
$\Rightarrow$ A(ABCD) = ?

A) 100 B) 121 C) 144 D) 169 E) 225

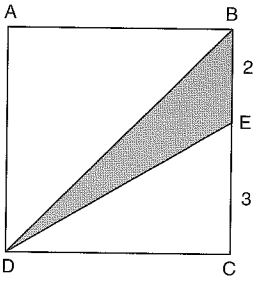
4.



ABCD kare
ABCD square
$|EB| = \sqrt{2}$ br
$|DC| = \sqrt{6}$ br
$\Rightarrow m(\widehat{AEC}) = \alpha = ?$

A) 150 B) 135 C) 120 D) 90 E) 75

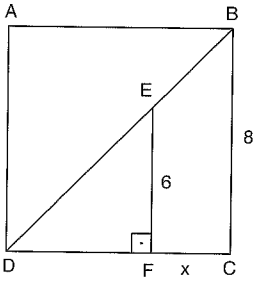
5.



ABCD kare
ABCD square
$|BE| = 2$ br
$|EC| = 3$ br
$\Rightarrow$ A(BDE) = ?

A) 5 B) 6 C) 10 D) 12 E) 15

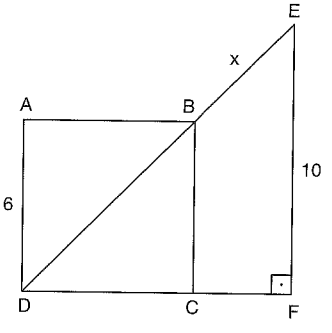
6.



ABCD kare
ABCD square
$[EF] \perp [DC]$
$|EF| = 6$ br
$|BC| = 8$ br
$\Rightarrow |FC| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

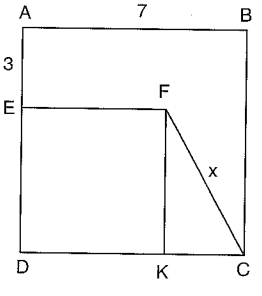
7.



ABCD kare
ABCD square
$[EF] \perp [DF]$
$|EF| = 10$ br
$|AD| = 6$ br
$\Rightarrow |BE| = x = ?$

A) 2 B) $2\sqrt{2}$ C) 4 D) $4\sqrt{2}$ E) 6

8.

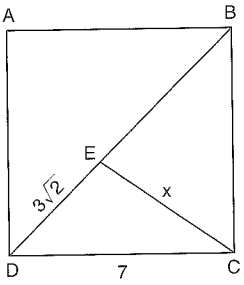


ABCD, EFKD kare
ABCD, EFKD square
$|AB| = 7$ br
$|AE| = 3$ br
$\Rightarrow |FC| = x = ?$

A) $10\sqrt{2}$ B) 10 C) $4\sqrt{2}$ D) 5 E) 4

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

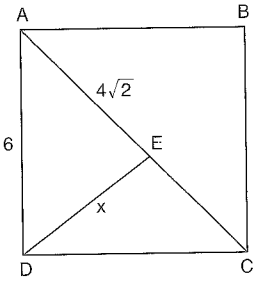
9.



ABCD kare
ABCD square
$|DC| = 7$ br
$|DE| = 3\sqrt{2}$ br
$\Rightarrow |EC| = x = ?$

A) 7 B) 6 C) 5 D) 4 E) 3

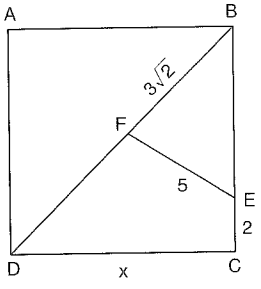
10.



ABCD kare
ABCD square
$|AE| = 4\sqrt{2}$ br
$|AD| = 6$ br
$\Rightarrow |ED| = x = ?$

A) $2\sqrt{2}$ B) 5 C) 6 D) $2\sqrt{5}$ E) $2\sqrt{7}$

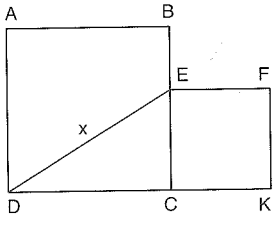
11.



ABCD kare
ABCD square
$|BF| = 3\sqrt{2}$ br
$|FE| = 5$ br
$|EC| = 2$ br
$\Rightarrow |DC| = x = ?$

A) 9 B) 8 C) 7 D) 6 E) 5

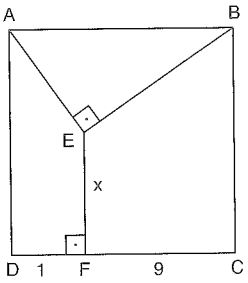
12.



ABCD, EFKC kare
ABCD, EFKC square
$A(ABCD) + A(EFCK) = 72\ br^2$
$\Rightarrow |DE| = x = ?$

A) 4 B) 6 C) $4\sqrt{2}$ D) $6\sqrt{2}$ E) 12

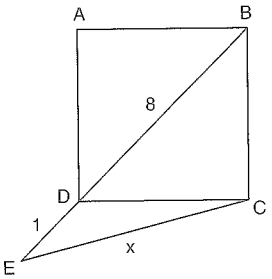
13.



ABCD kare
ABCD square
$[AE] \perp [EB]$
$[EF] \perp [DC]$
$|DF| = 1$ br
$|FC| = 9$ br
$\Rightarrow |EF| = x = ?$

A) 3 B) 4 C) 5 D) 6 E) 7

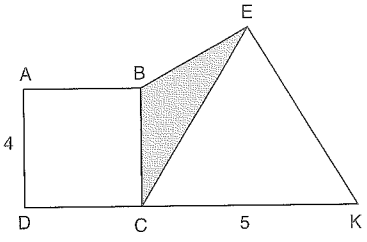
14.



ABCD kare
ABCD square
$|BD| = 8$ br
$|DE| = 1$ br
$\Rightarrow |EC| = x = ?$

A) 3 B) 5 C) $4\sqrt{2}$ D) $\sqrt{41}$ E) 7

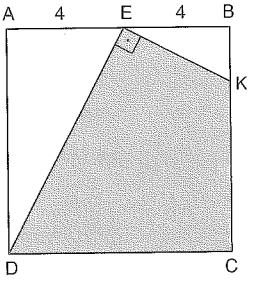
15.



ABCD kare
ABCD square
ECK eşkenar üçgen
ECK equilateral triangle
$|AD| = 4$ br
$|CK| = 5$ br
$\Rightarrow A(BEC) = ?$

A) $\frac{5}{2}$ B) 5 C) $5\sqrt{3}$ D) 10 E) $10\sqrt{3}$

16.



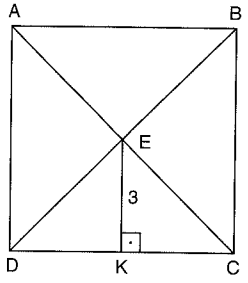
ABCD kare
ABCD square
$|AE| = |EB| = 4$ br
$\Rightarrow A(EKCD) = ?$

A) 16 B) 24 C) 32 D) 44 E) 48

PUZA YAYINLARI

www.ztcprep.com

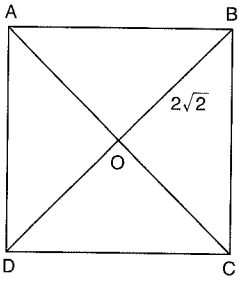
1.



ABCD kare
ABCD square
[EK] ⊥ [DC]
|EK| = 3 br
⇒ A(ABCD) = ?

A) 9 B) 16 C) 25 D) 36 E) 64

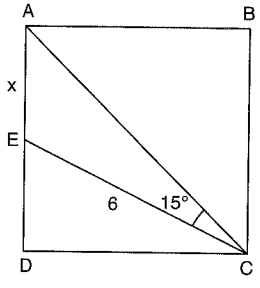
2.



ABCD kare
ABCD square
|OB| = 2√2 br
⇒ Ç(ABCD) = ?

A) 8 B) 8√2 C) 16 D) 16√2 E) 32

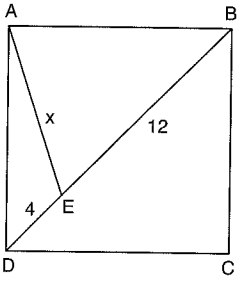
3.



ABCD kare
ABCD square
|EC| = 6 br
m(ÊCA) = 15°
⇒ |AE| = x = ?

A) 3√3 B) 6√3 C) 3√3 − 3
D) 3√3 + 3 E) 6√3 + 3

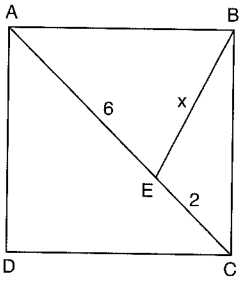
4.



ABCD kare
ABCD square
|DE| = 4 br
|EB| = 12 br
⇒ |AE| = x = ?

A) 4 B) 2√5 C) 5 D) 4√5 E) 8

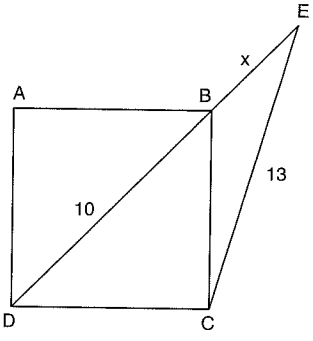
5.



ABCD kare
ABCD square
|AE| = 6 br
|EC| = 2 br
⇒ |BE| = x = ?

A) 2 B) 2√5 C) 4√2 D) 4√3 E) 4√5

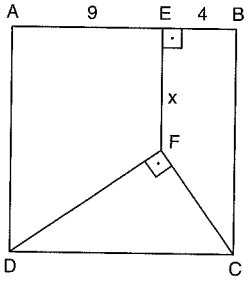
6.



ABCD kare
ABCD square
|BD| = 10 br
|EC| = 13 br
⇒ |BE| = x = ?

A) 5 B) 7 C) 9 D) 12 E) 13

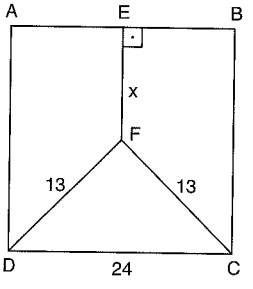
7.



ABCD kare
ABCD square
|EB| = 4 br
|AE| = 9 br
[EF] ⊥ [AB]
[DF] ⊥ [FC]
⇒ |EF| = x = ?

A) 5 B) 6 C) 7 D) 8 E) 9

8.



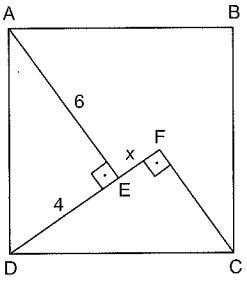
ABCD kare
ABCD square
[FE] ⊥ [AB]
|DF| = |FC| = 13 br
|DC| = 24 br
⇒ |EF| = x = ?

A) 19 B) 17 C) 16 D) 15 E) 12

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

www.ztcprep.com

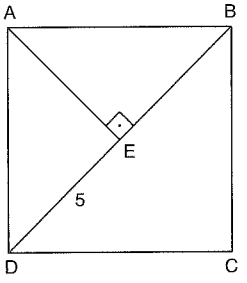
9.



ABCD kare
ABCD square
[AE] ⊥ [DF]
[DF] ⊥ [FC]
|AE| = 6 br
|DE| = 4 br
⇒ |EF| = x = ?

A) 1 B) 2 C) 3 D) 4 E) 5

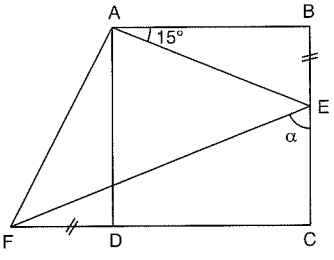
10.



ABCD kare
ABCD square
[AE] ⊥ [BD]
|DE| = 5 br
⇒ A(ABCD) = ?

A) 100 B) 75 C) 50 D) 25 E) 20

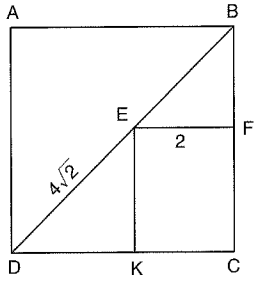
11.



ABCD kare
ABCD square
|BE| = |FD|
m(BAE) = 15°
⇒ m(FEC) = α = ?

A) 15 B) 30 C) 45 D) 60 E) 75

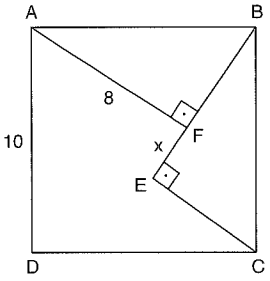
12.



ABCD kare
ABCD square
EFCK dikdörtgen
EFCK rectangle
|EF| = 2 br
|DE| = 4√2 br
⇒ A(ABCD) = ?

A) 25 B) 36 C) 49 D) 64 E) 81

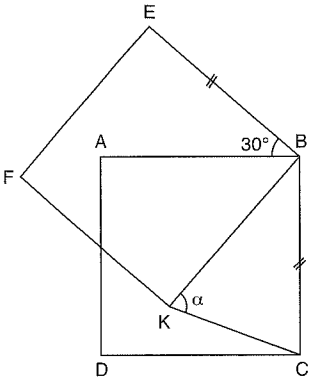
13.



ABCD kare
ABCD square
[AF] ⊥ [EB]
[CE] ⊥ [EB]
|AF| = 8 br
|AD| = 10 br
⇒ |EF| = x = ?

A) 1 B) 2 C) 3 D) 4 E) 5

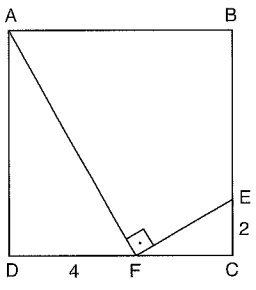
14.



ABCD, EBKF kare
ABCD, EBKF square
|EB| = |BC|
m(EBA) = 30°
⇒ m(BKC) = α = ?

A) 75 B) 60 C) 50 D) 45 E) 30

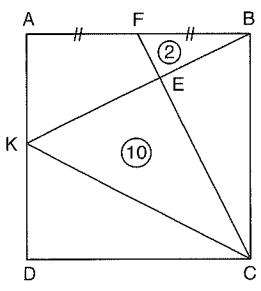
15.



ABCD kare
ABCD square
[AF] ⊥ [FE]
|EC| = 2 br
|DF| = 4 br
⇒ A(ABCD) = ?

A) 16 B) 25 C) 36 D) 49 E) 64

16.



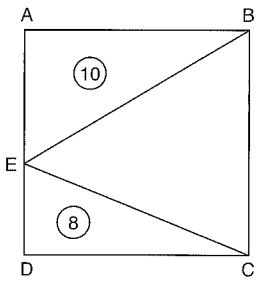
ABCD kare
ABCD square
|BF| = |FA|
A(EFB) = 2 br²
A(EKC) = 10 br²
⇒ A(ABCD) = ?

A) 64 B) 54 C) 48 D) 36 E) 32

PUZA YAYINLARI

www.ztcprep.com

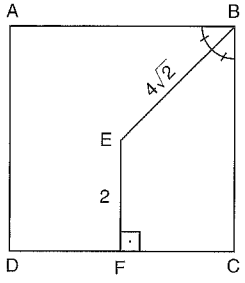
1.



ABCD kare
ABCD square
A(ABE) = 10 br²
A(EDC) = 8 br²
⇒ Ç(ABCD) = ?

A) 16 B) 20 C) 24 D) 28 E) 32

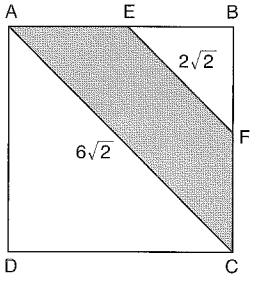
2.



ABCD kare
ABCD square
[EF] ⊥ [DC]
m(ÂBE) = m(ÊBC)
|EB| = 4√2 br
|EF| = 2 br
⇒ A(ABCD) = ?

A) 16 B) 25 C) 36 D) 49 E) 64

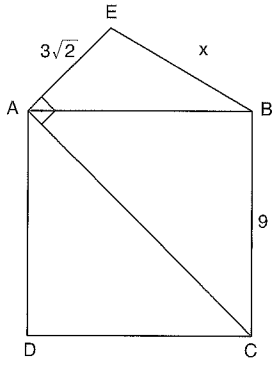
3.



ABCD kare
ABCD square
[EF] // [AC]
|EF| = 2√2 br
|AC| = 6√2 br
⇒ A(AEFC) = ?

A) 24 B) 16 C) 14 D) 12 E) 8

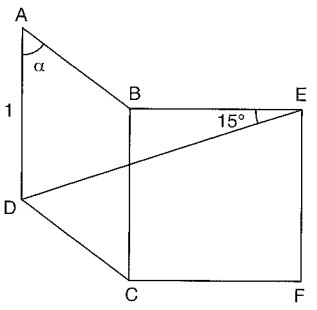
4.



ABCD kare
ABCD square
[EA] ⊥ [AC]
|EA| = 3√2 br
|BC| = 9 br
⇒ |EB| = x = ?

A) 3 B) 3√2 C) 3√5 D) 5√2 E) 6√5

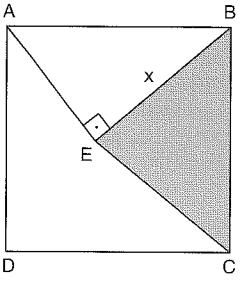
5.



BEFC kare
BEFC square
ABCD eşkenar dörtgen
ABCD rhombus
|AD| = 1 br
|DE| = √2 br
m(B̂ED) = 15°
⇒ m(D̂AB) = α = ?

A) 15 B) 30 C) 45 D) 60 E) 75

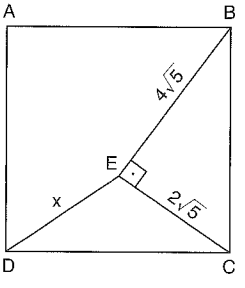
6.



ABCD kare
ABCD square
A(BEC) = 50 br²
[AE] ⊥ [EB]
⇒ |EB| = x = ?

A) 10 B) 8 C) 6 D) 4 E) 3

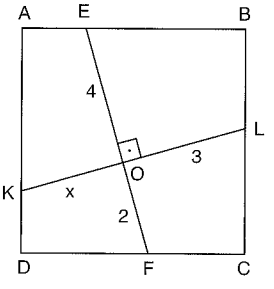
7.



ABCD kare
ABCD square
[BE] ⊥ [EC]
|BE| = 4√5 br
|EC| = 2√5 br
⇒ |ED| = x = ?

A) 2√10 B) 6 C) √35 D) 2√5 E) 4

8.



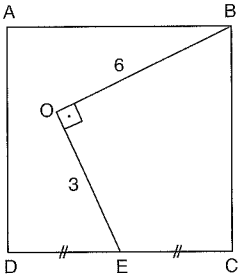
ABCD kare
ABCD square
[EF] ⊥ [KL]
|EO| = 4 br
|OF| = 2 br
|OL| = 3 br
⇒ |KO| = x = ?

A) 1 B) 2 C) 3 D) 4 E) 5

PUZA YAYINLARI

www.ztcprep.com

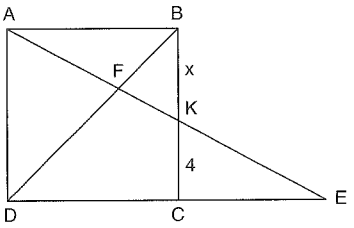
9.



ABCD kare
ABCD square
$[BO] \perp [OE]$
$|BO| = 6$ br
$|OE| = 3$ br
$|DE| = |EC|$
$\Rightarrow$ A(ABCD) = ?

A) 100 B) 81 C) 64 D) 49 E) 36

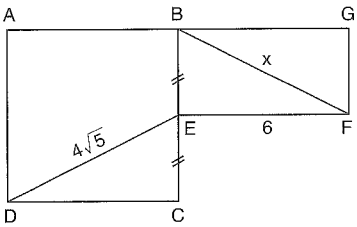
10.



ABCD kare
ABCD square
$|BD| = |CE|$
$|KC| = 4$ br
$\Rightarrow |BK| = x = ?$

A) $\sqrt{2}$ B) 2 C) $2\sqrt{2}$ D) 4 E) $4\sqrt{2}$

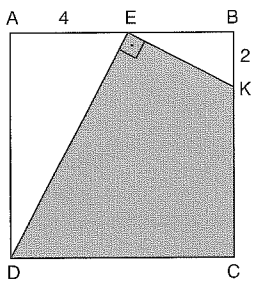
11.



ABCD kare
ABCD square
BGFE dikdörtgen
BGFE rectangle
$|DE| = 4\sqrt{5}$ br
$|EF| = 6$ br
$|BE| = |EC|$
$\Rightarrow |BF| = x = ?$

A) $2\sqrt{13}$ B) 7 C) $4\sqrt{3}$ D) 4 E) 5

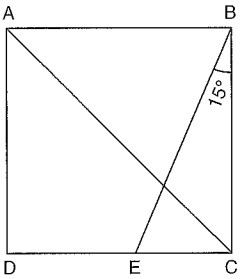
12.



ABCD kare
ABCD square
$[DE] \perp [EK]$
$|BK| = 2$ br
$|AE| = 4$ br
$\Rightarrow$ A(DEKC) = ?

A) 64 B) 48 C) 44 D) 32 E) 24

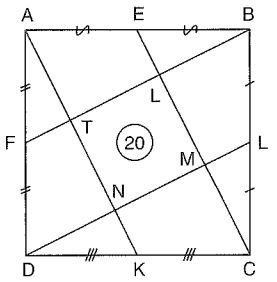
13.



ABCD kare
ABCD square
$m(\widehat{EBC}) = 15°$
$|BE| = 8$ br
$\Rightarrow |AC| = ?$

A) 4 B) $4\sqrt{2}$ C) $4\sqrt{3}$ D) 8 E) $4+4\sqrt{3}$

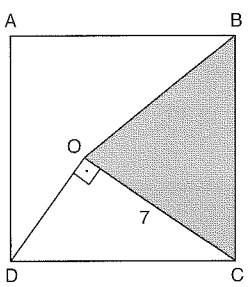
14.



ABCD kare
ABCD is square
E, F, K, L bulundukları kenarların orta noktaları
E, F, K, L are the midpoints of sides
A(LMNT) = 20 br^2
$\Rightarrow$ A(ABCD) = ?

A) 100 B) 80 C) 75 D) 70 E) 60

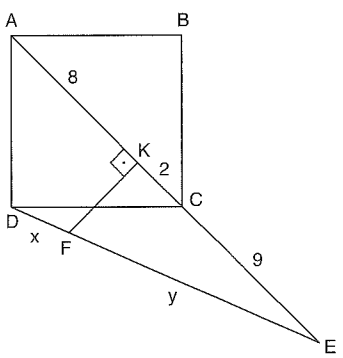
15.



ABCD kare
ABCD square
$[DO] \perp [OC]$
$|OC| = 7$ br
$\Rightarrow$ A(BOC) = ?

A) 7 B) 14 C) $\frac{49}{2}$ D) 49 E) 98

16.



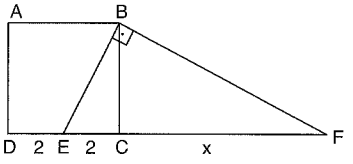
ABCD kare
ABCD square
$[FK] \perp [AE]$
$|AK| = 8$ br
$|KC| = 2$ br
$|CE| = 9$ br
$|DF| = x$
$|FE| = y$
$\Rightarrow \frac{x}{y} = ?$

A) $\frac{8}{11}$ B) $\frac{5}{11}$ C) $\frac{3}{11}$ D) $\frac{2}{9}$ E) $\frac{1}{9}$

PUZA YAYINLARI

www.ztcprep.com

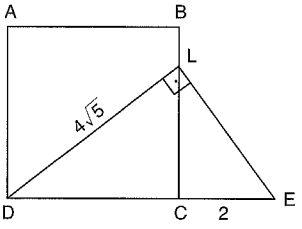
1.



ABCD kare
ABCD square
[EB] ⊥ [BF]
|DE| = |EC| = 2 br
⇒ |CF| = x = ?

A) 8 B) 6 C) 4 D) 2 E) 1

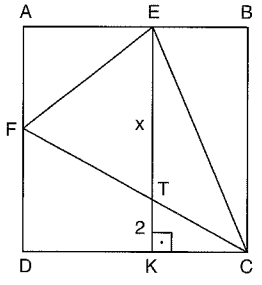
2.



ABCD kare
ABCD square
[DL] ⊥ [LE]
|CE| = 2 br
|DL| = $4\sqrt{5}$ br
⇒ A(ABCD) = ?

A) 64 B) 49 C) 36 D) 25 E) 16

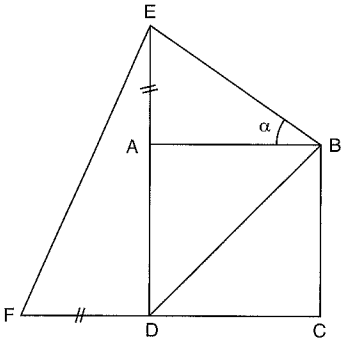
3.



ABCD kare
ABCD square
A(ABCD) + A(EFC) = 88 br^2
|TK| = 2 br
[EK] ⊥ [DC]
⇒ |ET| = x = ?

A) 4 B) 5 C) 6 D) 7 E) 8

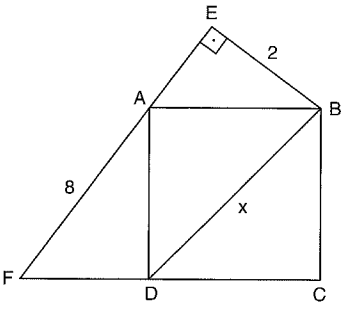
4.



ABCD kare
ABCD square
A(EDF) = A(EDB)
|EA| = |FD|
⇒ m(ÊBA) = α = ?

A) 75 B) 60 C) 45 D) 30 E) 15

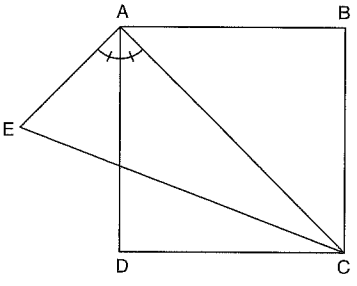
5.



ABCD kare
ABCD square
[EB] ⊥ [FE]
|EB| = 2 br
|AF| = 8 br
⇒ |BD| = x = ?

A) 2 B) $2\sqrt{4}$ C) 4 D) $4\sqrt{2}$ E) 8

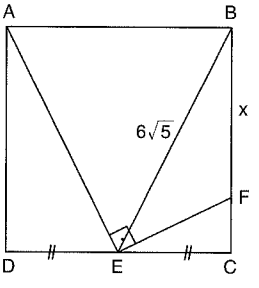
6.



ABCD kare
ABCD square
m(ÊAD) = m(D̂AC)
|EA| = 5 br
|EC| = $5\sqrt{3}$ br
⇒ Ç(ABCD) = ?

A) 12 B) 16 C) 20 D) 24 E) 28

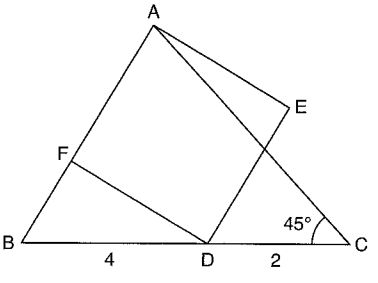
7.



ABCD kare
ABCD square
[AE] ⊥ [EF]
|DE| = |EC|
|BE| = $6\sqrt{5}$ br
⇒ |BF| = x = ?

A) 4 B) 5 C) $6\sqrt{2}$ D) $6\sqrt{5}$ E) 9

8.

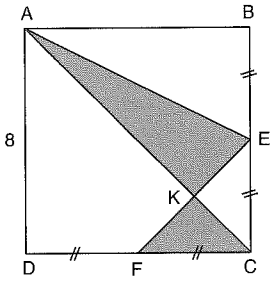


AEDF kare
ABCD square
|BD| = 4 br
|DC| = 2 br
m(ÂCB) = 45°
⇒ |AB| = ?

A) 2 B) $\frac{2\sqrt{6}}{3}$ C) $\sqrt{5}$ D) $\sqrt{6}$ E) $2\sqrt{6}$

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

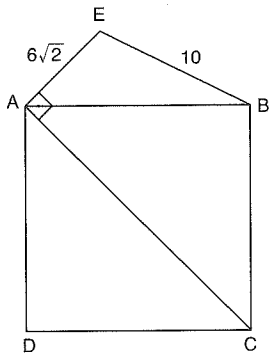
9.



ABCD kare
ABCD square
$|AD| = 8$ br
$|BE| = |EC|$
$|DF| = |FC|$
⇒ Taralı Alan = ?
Shaded area = ?

A) 8 B) 12 C) 16 D) 20 E) 24

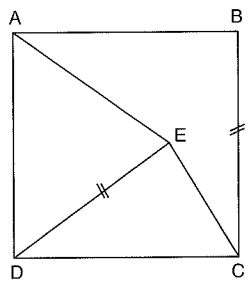
10.



ABCD kare
ABCD square
$[EA] \perp [AC]$
$|AE| = 6\sqrt{2}$ br
$|EB| = 10$ br
⇒ Ç(ABCD) = ?

A) 32 B) 40 C) 48 D) 56 E) 60

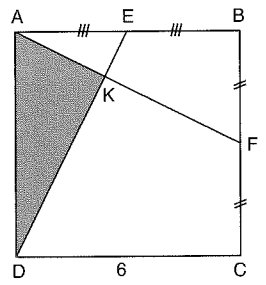
11.



ABCD kare
ABCD square
$|DE| = |BC|$
⇒ $m(\widehat{AEC}) = ?$

A) 135 B) 125 C) 120 D) 115 E) 110

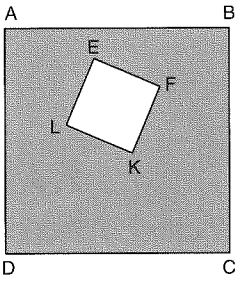
12.



ABCD kare
ABCD square
$|AE| = |EB|$
$|BF| = |FC|$
$|DC| = 6$ br
⇒ A(AKD) = ?

A) $\frac{15}{2}$ B) $\frac{36}{5}$ C) 9 D) 12 E) $\frac{40}{3}$

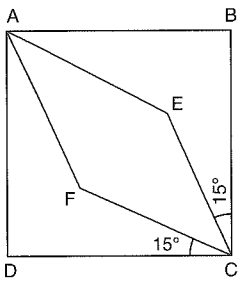
13.



ABCD ve EFKL kare
ABCD and EFKL square
Karelerin çevreleri toplamı 24 br
The sum of the circumferences of the squares is 24 units
Taralı alan 12 br^2
Shaded area = 12 br^2
⇒ Ç(ABCD) = ?

A) 16 B) 20 C) 24 D) 28 E) 32

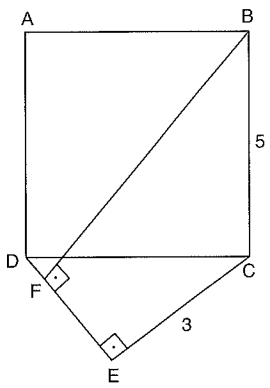
14.



ABCD kare
ABCD square
AECF eşkenar dörtgen
AECF rhombus
Ç(AECF) = 24 br
$m(\widehat{ECB}) = m(\widehat{DCF}) = 15°$
⇒ Ç(ABCD) = ?

A) $12\sqrt{3}$ B) $14\sqrt{3}$ C) $16\sqrt{3}$ D) $12\sqrt{6}$ E) $12\sqrt{2}$

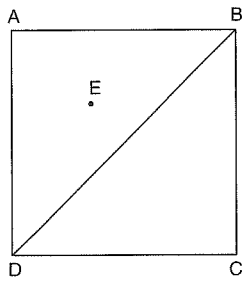
15.



ABCD kare
ABCD square
$|BC| = 5$ br
$|EC| = 3$ br
$[BF] \perp [DE]$
$[EC] \perp [DE]$
⇒ $|BF| = ?$

A) 8 B) 7 C) 6 D) 4 E) 2

16.



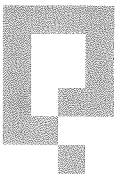
ABCD kare
ABCD square
A(ABCD) = 32 br^2
E, ABD üçgeninin içinde bir nokta
E is a point inside the ABD triangle
⇒ [CE] nin alabileceği en küçük tamsayı değeri kaçtır?
⇒ *What is the minimum integer value that [CE] can be?*

A) 3 B) 4 C) 5 D) 6 E) 7

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

www.ztcprep.com

ZTC زنگنه مجموعه موسسات



KARE SQUARE
Yanıt Anahtarı Answer Key

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	C	C	B	D	C	D	D	B	E	D	C	A	B	B	D

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	D	E	C	A	B	D	D	C	D	A	D	E	D	B	D

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	C	D	B	B	C	A	B	C	D	B	B	A	E	E

TEST 4

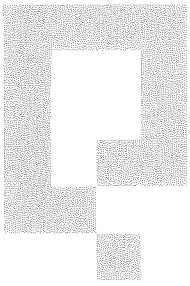
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	C	B	C	B	A	A	C	E	C	A	C	E	A	C	C

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	A	C	C	D	C	E	E	C	D	A	B	A	D	B	C

www.ztcprep.com

زنگنه ZTC
مجموعه موسسات

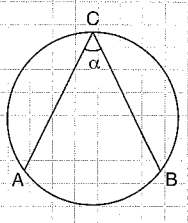


ÇEMBERDE AÇI
ANGLE IN CIRCLE

www.ztcprep.com

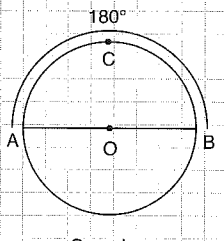
ZTC زنگنه مجموعه موسسات Özellikler

ÖZELLİK | Property 1



$m(\widehat{ACB}) = \alpha$

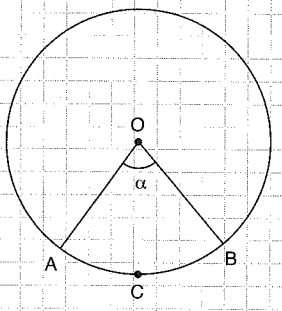
$m(\widehat{AB}) = 2\alpha$



O merkez
O center

$m(\widehat{ACB}) = 180°$

ÖZELLİK | Property 2

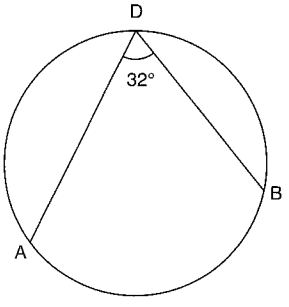


O merkezli çember
A Circle with a center O

$m(\widehat{AOB}) = \alpha$

$m(\widehat{ACB}) = \alpha$

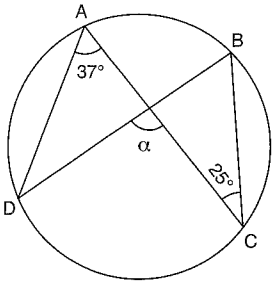
1.



$\Rightarrow m(\widehat{AB}) = ?$

64

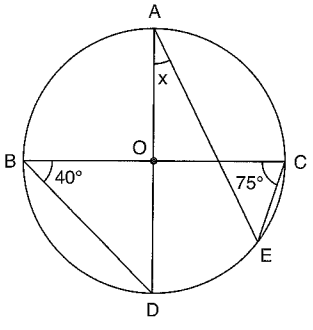
2.



$\Rightarrow \alpha = ?$

62

3.

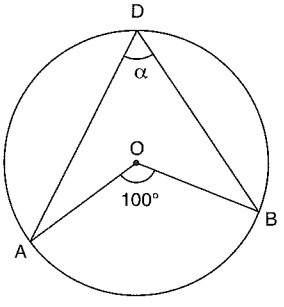


O merkezli çember
A Circle with a center O

$\Rightarrow x = ?$

25

1.

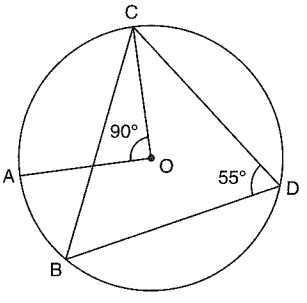


O merkezli çember
A Circle with a center O

$\Rightarrow \alpha = ?$

50

2.

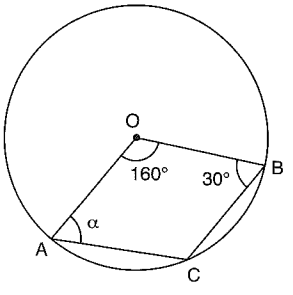


O merkezli çember
A Circle with a center O

$\Rightarrow m(\widehat{AB}) = ?$

20

3.



O merkezli çember
A Circle with a center O

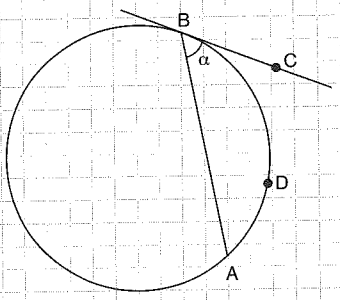
$\Rightarrow \alpha = ?$

70

PUZA YAYINLARI

www.ztcprep.com

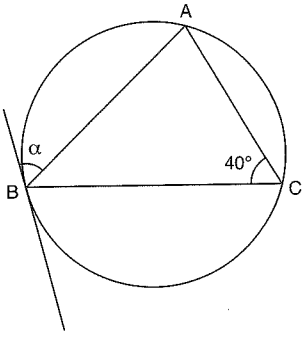
ÖZELLİK | Property 3



$m(\widehat{ABC}) = \alpha$

$m(\widehat{ADB}) = 2\alpha$

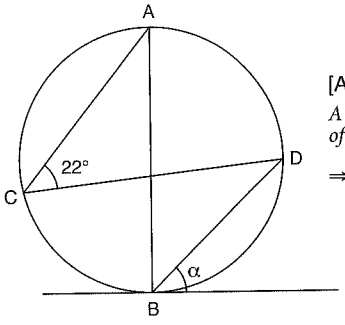
1.



$\Rightarrow \alpha = ?$

40

2.



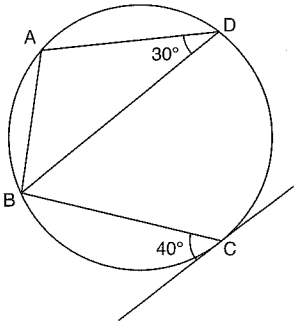
[AB] çaplı çember

A Circle with a diameter of [AB]

$\Rightarrow \alpha = ?$

68

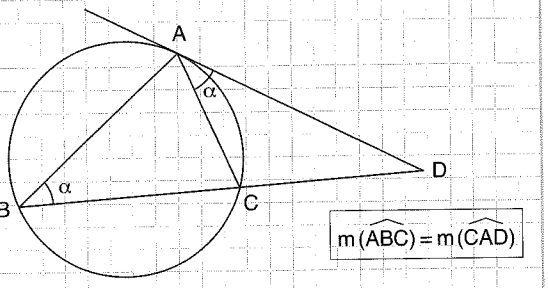
3.



$\Rightarrow m(\widehat{ABC}) = ?$

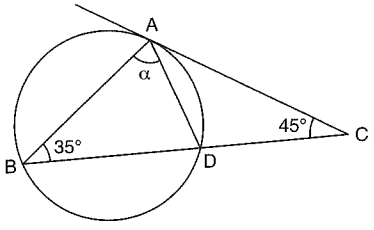
110

ÖZELLİK | Property 4



$m(\widehat{ABC}) = m(\widehat{CAD})$

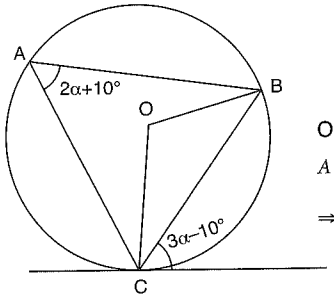
1.



$\Rightarrow \alpha = ?$

65

2.



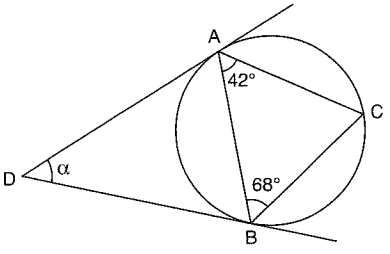
O merkezli çember

A Circle with a center O

$\Rightarrow m(\widehat{COB}) = ?$

100

3.



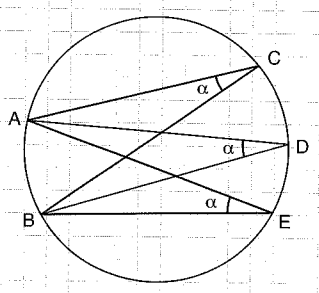
$\Rightarrow \alpha = ?$

40

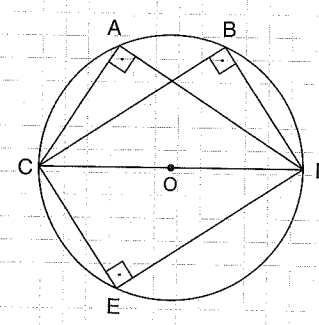
PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK | Property 5



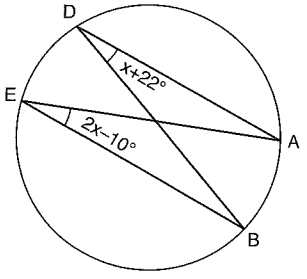
ÖZELLİK | Property 6



O merkezli çember

A Circle with a center O

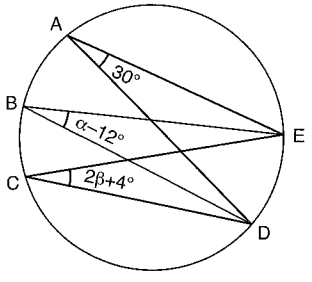
1.



$\Rightarrow m(\widehat{AB}) = ?$

108

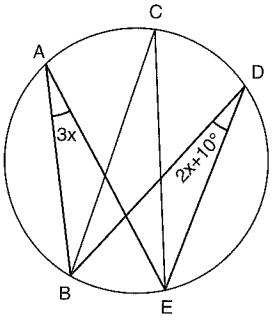
2.



$\Rightarrow \alpha - \beta = ?$

29

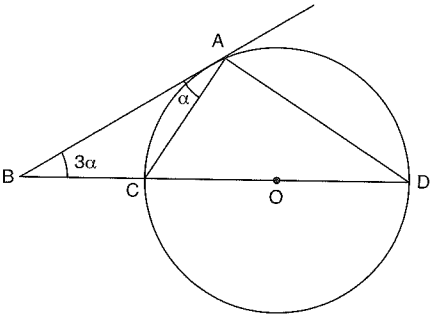
3.



$\Rightarrow m(\widehat{BCE}) = ?$

30

1.



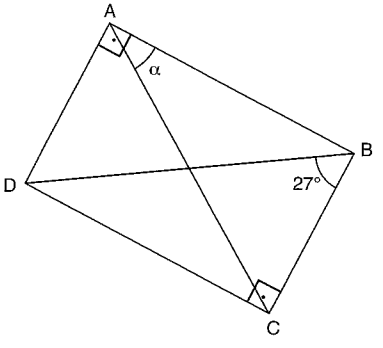
O merkezli çember

A Circle with a center O

$\Rightarrow \alpha = ?$

18

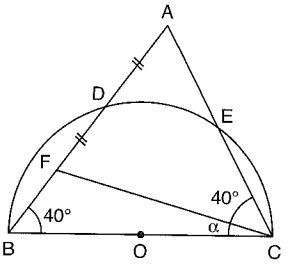
2.



$\Rightarrow \alpha = ?$

63

3.



O merkezli çember

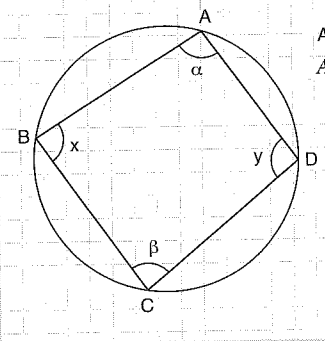
A Circle with a center O

$\Rightarrow \alpha = ?$

30

PUZA YAYINLARI

ÖZELLİK | Property 7



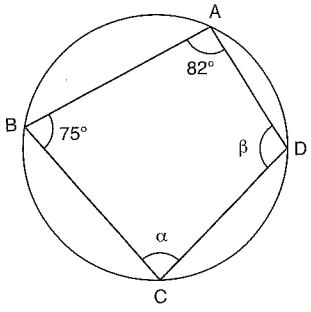
ABCD Kirişler Dörtgeni

ABCD Inscribed quadrilateral

$\alpha + \beta = 180°$

$x + y = 180°$

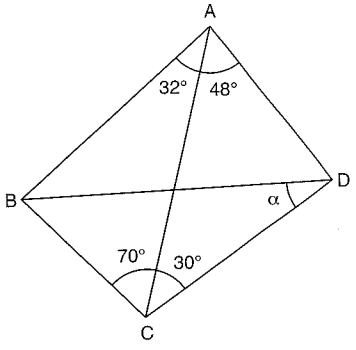
1.



$\Rightarrow \beta - \alpha = ?$

7

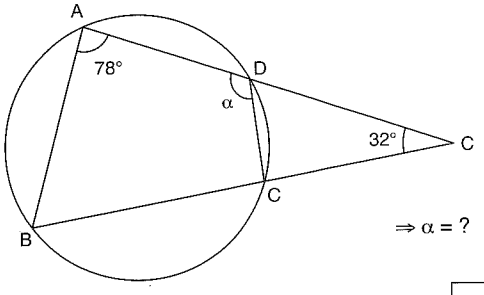
2.



$\Rightarrow \alpha = ?$

32

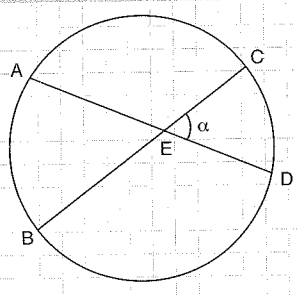
3.



$\Rightarrow \alpha = ?$

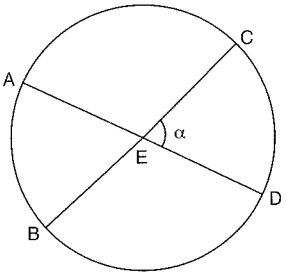
110

ÖZELLİK | Property 8



$$\alpha = \frac{m(\widehat{AB}) + m(\widehat{CD})}{2}$$

1.



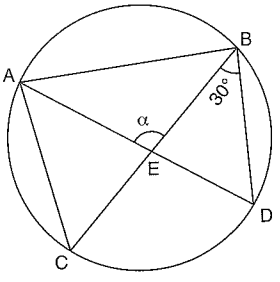
$m(\widehat{AB}) = 100°$

$m(\widehat{CD}) = 70°$

$\Rightarrow \alpha = ?$

85

2.



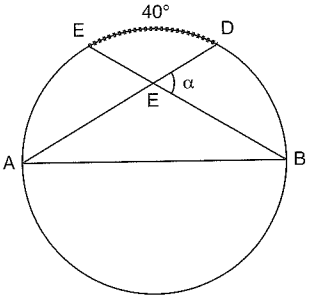
ABC eşkenar üçgen

ABC equilateral triangle

$\Rightarrow \alpha = ?$

90

3.



[AB] çaplı çember

A Circle with a diameter [AB]

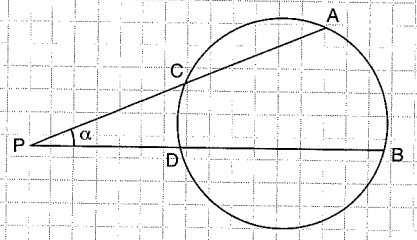
$\Rightarrow \alpha = ?$

70

PUZA YAYINLARI

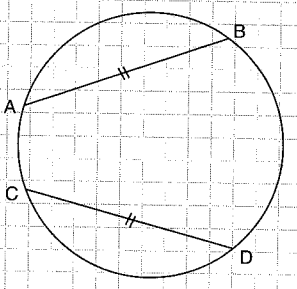
www.ztcprep.com

ÖZELLİK|Property 9



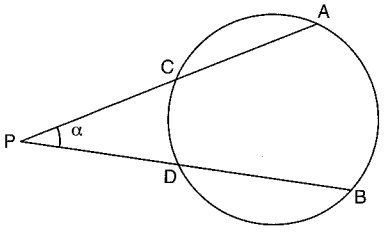
$$\alpha = \frac{m(\overset{\frown}{AB}) - m(\overset{\frown}{CD})}{2}$$

ÖZELLİK|Property 10



$|AB| = |CD| \Rightarrow m(\overset{\frown}{AB}) = m(\overset{\frown}{CD})$

1.



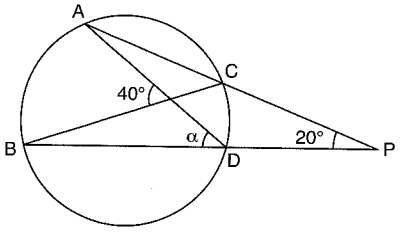
$m(\overset{\frown}{AB}) = 75°$

$m(\overset{\frown}{CD}) = 25°$

$\Rightarrow \alpha = ?$

25

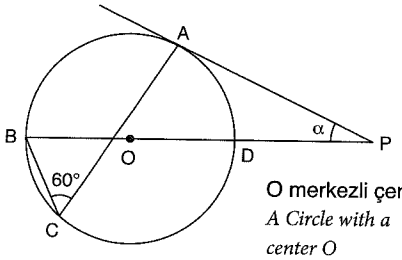
2.



$\Rightarrow \alpha = ?$

30

3.



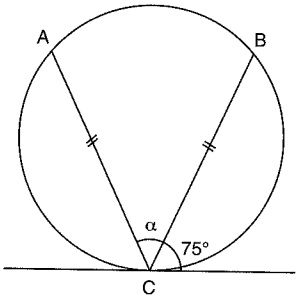
O merkezli çember

A Circle with a center O

$\Rightarrow \alpha = ?$

30

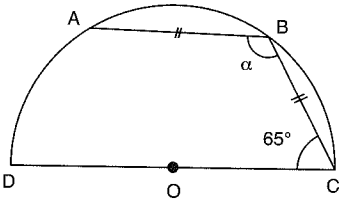
1.



$\Rightarrow \alpha = ?$

30

2.



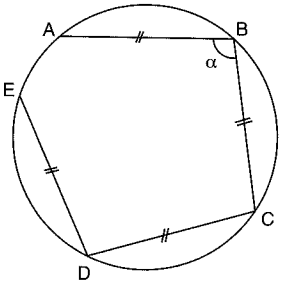
O merkezli çember

A Circle with a center O

$\Rightarrow \alpha = ?$

130

3.



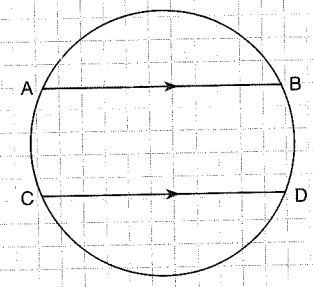
$m(\overset{\frown}{AE}) = 60°$

$\Rightarrow \alpha = ?$

105

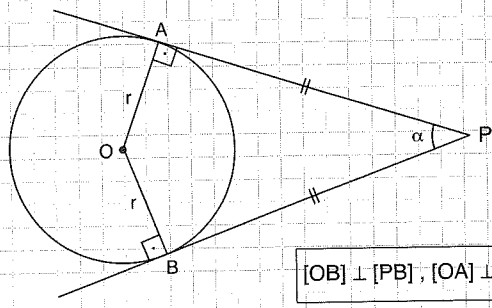
PUZA YAYINLARI

ÖZELLİK|Property 11



[AB] // [CD] ⇒ m(AC) = m(BD)

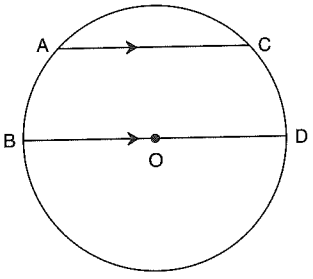
ÖZELLİK|Property 12



[OB] ⊥ [PB] , [OA] ⊥ [PA]

α + m(AB) = 180°

1.



O merkezli çember

A Circle with a center O

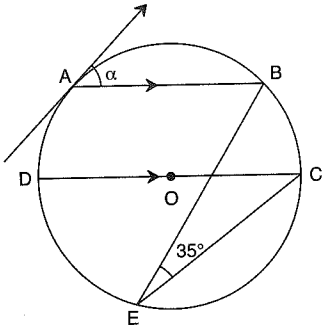
[AC] // [BD]

m(AB) = 50°

⇒ m(AC) = ?

80

2.



O merkezli çember

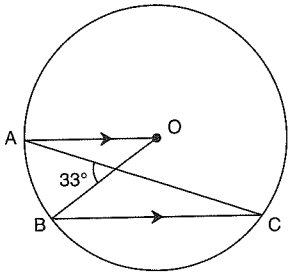
A Circle with a center O

[AB] // [DC]

⇒ α = ?

20

3.



O merkezli çember

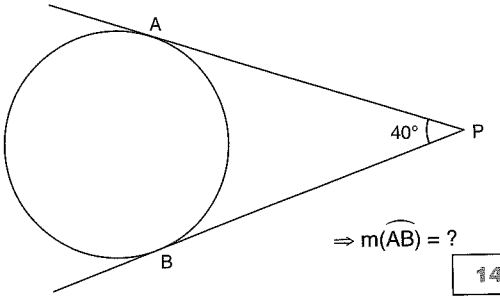
A Circle with a center O

[AO] // [BC]

⇒ m(BC) = ?

136

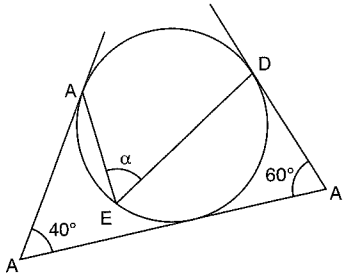
1.



⇒ m(AB) = ?

140

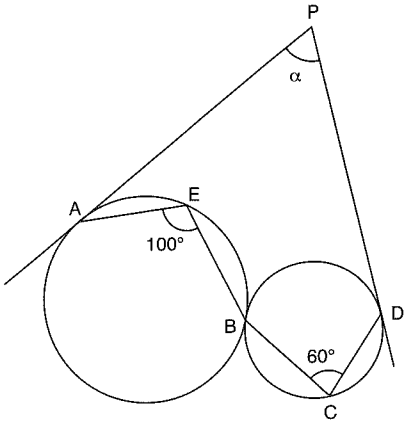
2.



⇒ α = ?

50

3.



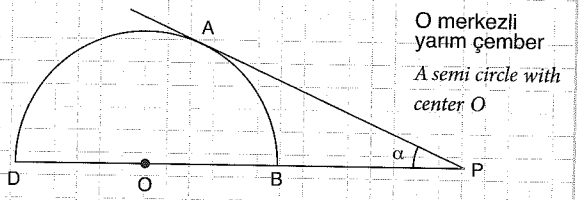
⇒ α = ?

80

PUZA YAYINLARI

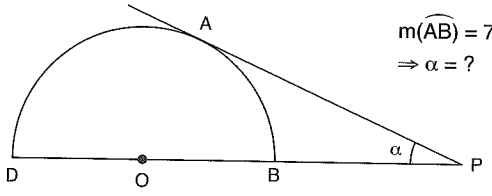
www.ztcprep.com

ÖZELLİK|Property 13



$\alpha + m(\overset{\frown}{AB}) = 90°$

1.

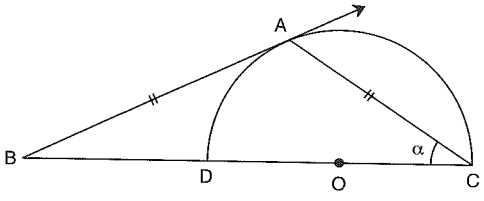


$m(\overset{\frown}{AB}) = 70°$

$\Rightarrow \alpha = ?$

20

2.

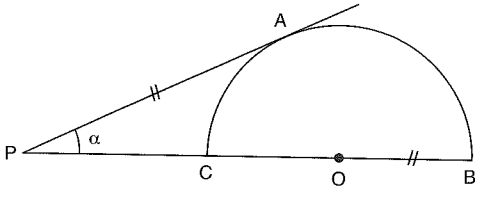


$|AB| = |AC|$

$\Rightarrow \alpha = ?$

30

3.

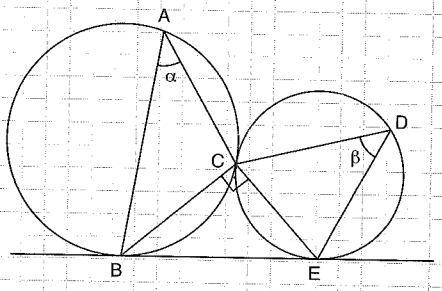


$|AP| = |OB|$

$\Rightarrow \alpha = ?$

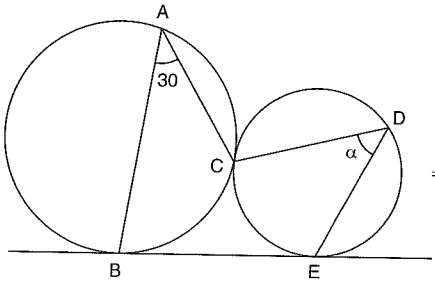
45

ÖZELLİK|Property 14



$\alpha + \beta = 90°$

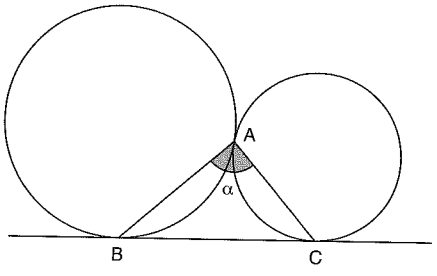
1.



$\Rightarrow \alpha = ?$

60

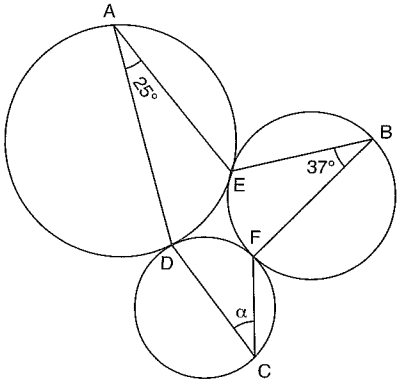
2.



$\Rightarrow \alpha = ?$

90

3.



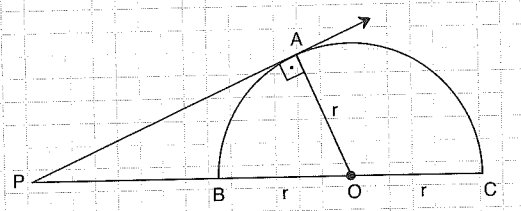
$\Rightarrow \alpha = ?$

28

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

www.ztcprep.com

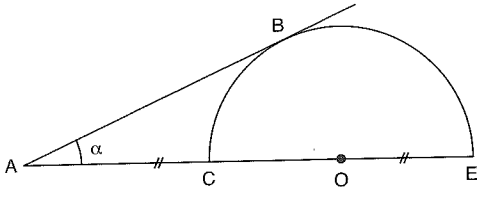
ÖZELLİK | Property 15



O merkezli yarım çember

A semi circle with a center O

1.



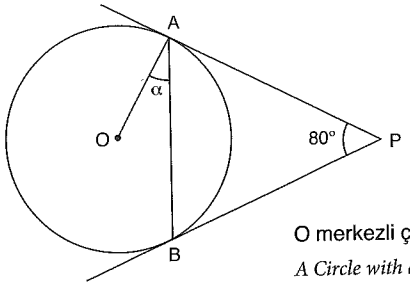
O merkezli yarım çember

A semi circle with a center O

$\Rightarrow \alpha = ?$

30

2.



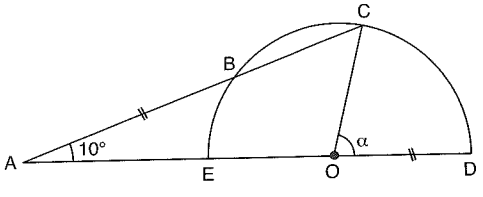
O merkezli çember

A Circle with a center O

$\Rightarrow \alpha = ?$

40

3.



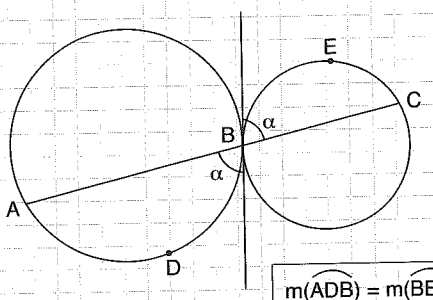
O merkezli yarım çember

A semi circle with a center O

$\Rightarrow \alpha = ?$

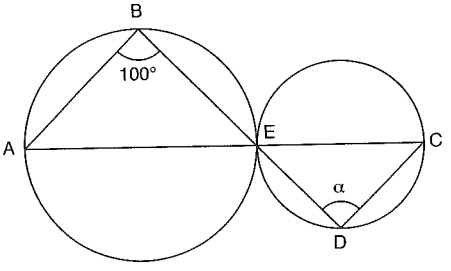
30

ÖZELLİK | Property 16



$m(\overset{\frown}{ADB}) = m(\overset{\frown}{BEC})$

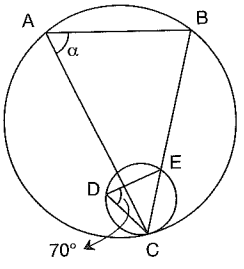
1.



$\Rightarrow \alpha = ?$

100

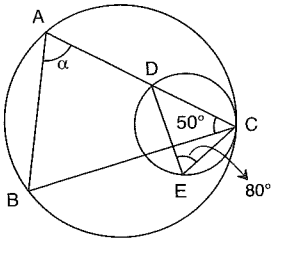
2.



$\Rightarrow \alpha = ?$

70

3.



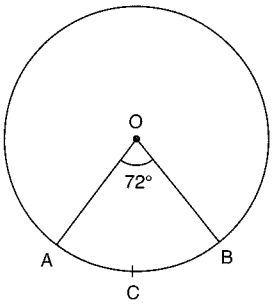
$\Rightarrow \alpha = ?$

50

PUZA YAYINLARI

www.ztcprep.com

1.



O merkezli çember

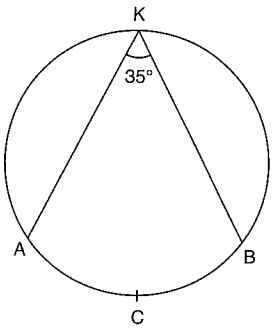
A Circle with a center O

$m(\widehat{AOB}) = 72°$

$\Rightarrow m(\widehat{ACB}) = ?$

A) 36 B) 48 C) 72 D) 108 E) 144

2.

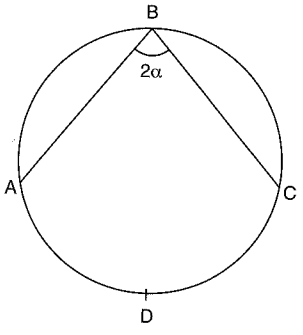


$m(\widehat{AKB}) = 35°$

$\Rightarrow m(\widehat{ACB}) = ?$

A) $\frac{35}{2}$ B) 35 C) 70 D) 140 E) 280

3.



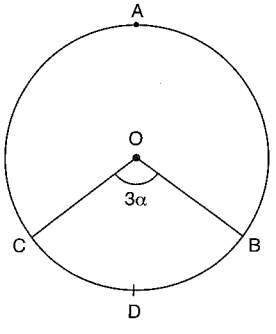
$m(\widehat{ABC}) = 2\alpha$

$m(\widehat{ADC}) = 5\alpha - 20°$

$\Rightarrow m(\widehat{ADC}) = ?$

A) $\frac{40}{3}$ B) 20 C) $\frac{80}{3}$ D) 40 E) 80

4.



O merkezli çember

A Circle with a center O

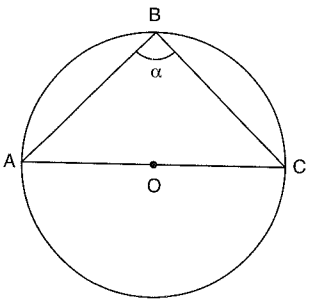
$m(\widehat{BOC}) = 3\alpha$

$m(\widehat{CDB}) = 2\alpha + 40°$

$\Rightarrow m(\widehat{BAC}) = ?$

A) 80 B) 120 C) 240 D) 280 E) 320

5.



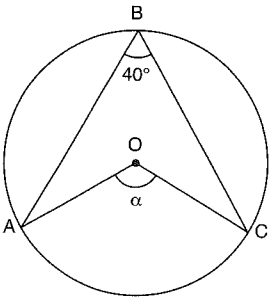
O merkezli çember

A Circle with a center O

$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 30 B) 60 C) 75 D) 90 E) 120

6.



O merkezli çember

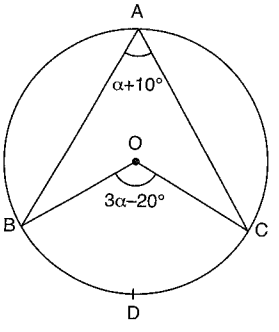
A Circle with a center O

$m(\widehat{ABC}) = 40°$

$\Rightarrow m(\widehat{AOC}) = \alpha = ?$

A) 20 B) 40 C) 60 D) 80 E) 160

7.



O merkezli çember

A Circle with a center O

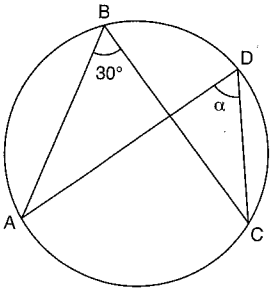
$m(\widehat{BAC}) = \alpha + 10°$

$m(\widehat{BOC}) = 3\alpha - 20°$

$\Rightarrow m(\widehat{BDC}) = ?$

A) 120 B) 100 C) 80 D) 50 E) 40

8.



$m(\widehat{ABC}) = 30°$

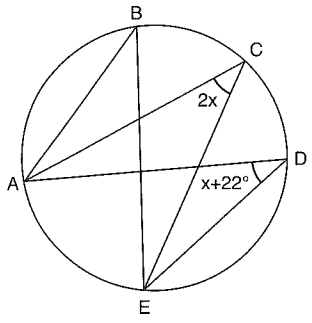
$\Rightarrow m(\widehat{ADC}) = \alpha = ?$

A) 15 B) 30 C) 45 D) 60 E) 90

PUZA YAYINLARI

www.ztcprep.com

9.



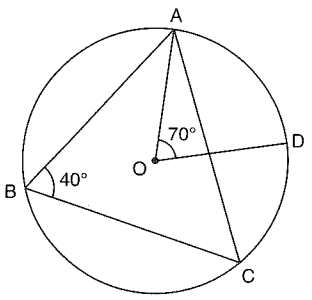
$m(\widehat{ACE}) = 2x$

$m(\widehat{ADE}) = x + 22°$

$\Rightarrow m(\widehat{ABE}) = ?$

A) 44 B) 32 C) 24 D) 22 E) 11

10.



O merkezli çember

A Circle with a center O

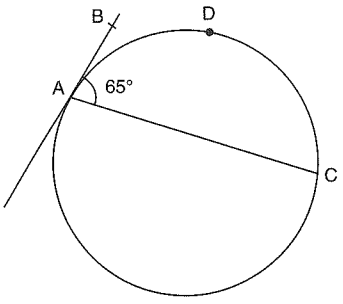
$m(\widehat{ABC}) = 40°$

$m(\widehat{AOD}) = 70°$

$\Rightarrow m(\widehat{DC}) = ?$

A) 10 B) 20 C) 30 D) 40 E) 50

11.

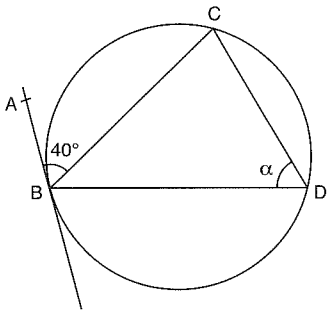


$m(\widehat{BAC}) = 65°$

$\Rightarrow m(\widehat{ADC}) = ?$

A) 22,5 B) 32,5 C) 65 D) 115 E) 130

12.

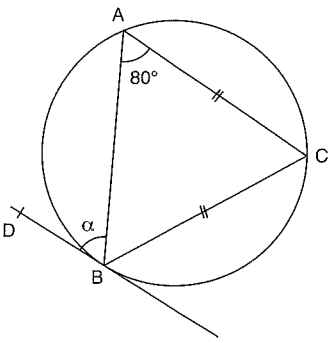


$m(\widehat{ABC}) = 40°$

$\Rightarrow m(\widehat{CDB}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 80 E) 140

13.



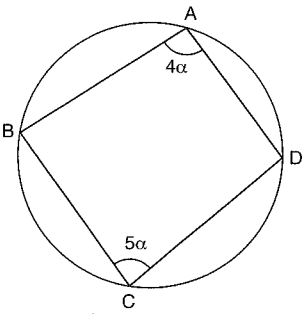
$|AC| = |BC|$

$m(\widehat{BAC}) = 80°$

$\Rightarrow m(\widehat{ABD}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 60 E) 80

14.



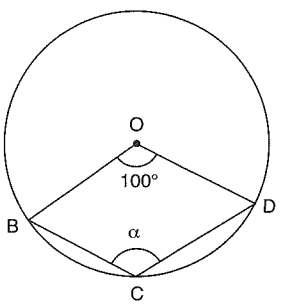
$m(\widehat{BAD}) = 4\alpha$

$m(\widehat{BCD}) = 5\alpha$

$\Rightarrow m(\widehat{BAD}) = ?$

A) 20 B) 80 C) 100 D) 160 E) 200

15.



O merkezli çember

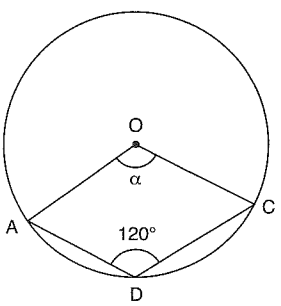
A Circle with a center O

$m(\widehat{BOD}) = 100°$

$\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 50 B) 80 C) 100 D) 130 E) 150

16.



O merkezli çember

A Circle with a center O

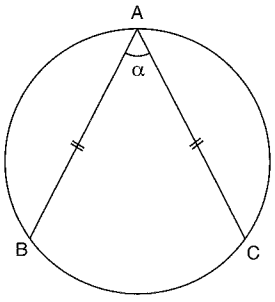
$m(\widehat{ADC}) = 120°$

$\Rightarrow m(\widehat{AOC}) = \alpha = ?$

A) 50 B) 65 C) 100 D) 120 E) 230

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

1.



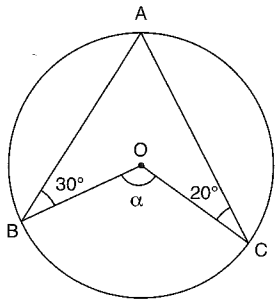
$|AB| = |AC|$

$m(\widehat{AC}) = 130°$

$\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 50 B) 100 C) 120 D) 140 E) 150

2.



O merkezli çember

A Circle with a center O

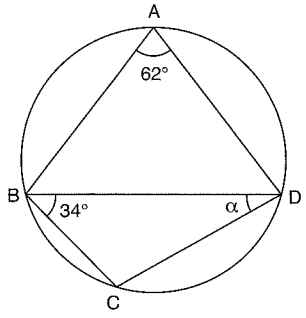
$m(\widehat{ABO}) = 30°$

$m(\widehat{OCA}) = 20°$

$\Rightarrow m(\widehat{BOC}) = \alpha = ?$

A) 20 B) 30 C) 50 D) 100 E) 120

3.



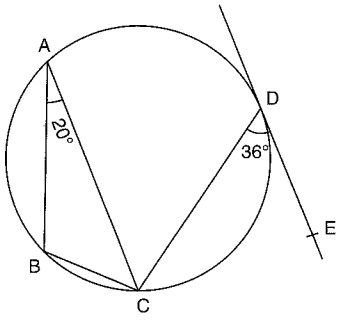
$m(\widehat{BAD}) = 62°$

$m(\widehat{DBC}) = 34°$

$\Rightarrow m(\widehat{BDC}) = \alpha = ?$

A) 12 B) 24 C) 28 D) 34 E) 46

4.



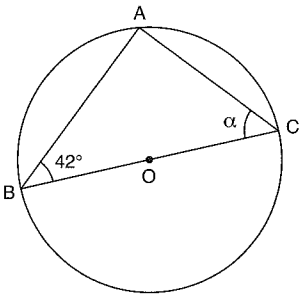
$m(\widehat{BAC}) = 20°$

$m(\widehat{CDE}) = 36°$

$\Rightarrow m(\widehat{BCD}) = ?$

A) 56 B) 78 C) 124 D) 126 E) 132

5.



O merkezli çember

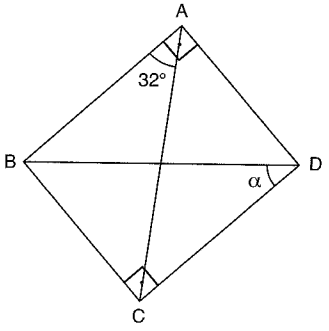
A Circle with a center O

$m(\widehat{ABC}) = 42°$

$\Rightarrow m(\widehat{ACB}) = \alpha = ?$

A) 21 B) 42 C) 48 D) 64 E) 84

6.



$[AB] \perp [AD]$

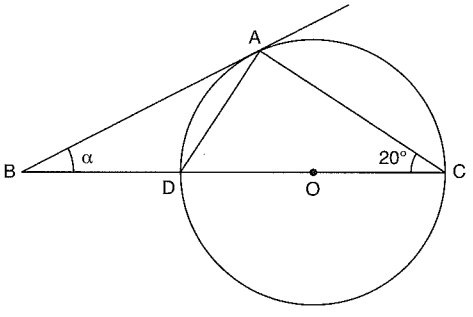
$[BC] \perp [CD]$

$m(\widehat{BAC}) = 32°$

$\Rightarrow m(\widehat{BDC}) = \alpha = ?$

A) 84 B) 76 C) 64 D) 48 E) 32

7.

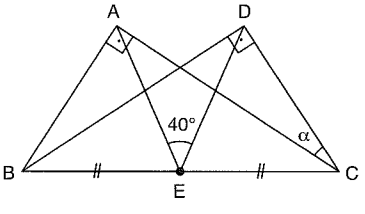


O merkezli çember *A Circle with a center O*

$m(\widehat{ACB}) = 20°$ $\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 20 B) 30 C) 40 D) 50 E) 70

8.



$[BA] \perp [AC]$

$[BD] \perp [DC]$

$|BE| = |EC|$

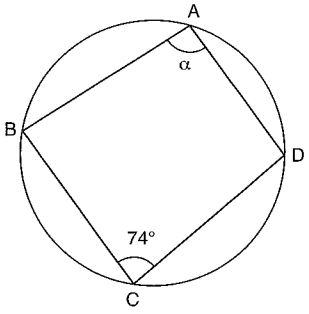
$m(\widehat{AED}) = 40°$

$\Rightarrow m(\widehat{ACD}) = \alpha = ?$

A) 10 B) 20 C) 40 D) 80 E) 140

PUZA YAYINLARI PUZA YAYINLARI PUZA YAYINLARI

9.

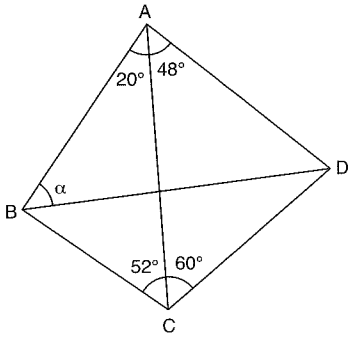


$m(\widehat{BCD}) = 74°$

$\Rightarrow m(\widehat{BAD}) = \alpha = ?$

A) 37 B) 74 C) 90 D) 106 E) 143

10.



$m(\widehat{BAC}) = 20°$

$m(\widehat{DAC}) = 48°$

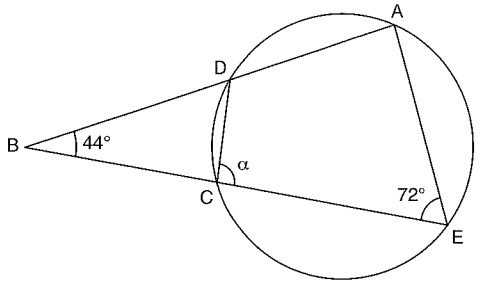
$m(\widehat{DCA}) = 60°$

$m(\widehat{ACB}) = 52$

$\Rightarrow m(\widehat{ABD}) = \alpha = ?$

A) 10 B) 15 C) 26 D) 30 E) 60

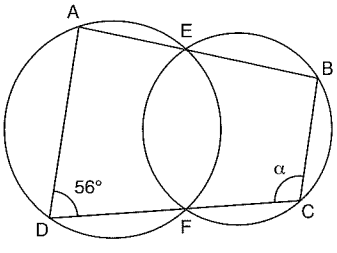
11.



$m(\widehat{AEB}) = 72°$ $m(\widehat{ABE}) = 44°$ $\Rightarrow m(\widehat{DCE}) = \alpha = ?$

A) 116 B) 98 C) 64 D) 58 E) 48

12.

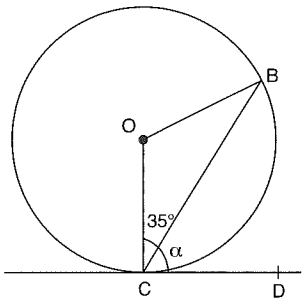


$m(\widehat{ADC}) = 56°$

$\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 28 B) 34 C) 56 D) 112 E) 124

13.



O merkezli çember

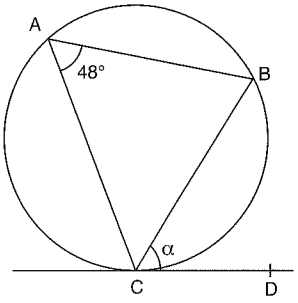
A Circle with a center O

$m(\widehat{OCB}) = 35°$

$\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 35 B) 55 C) 70 D) 110 E) 140

14.

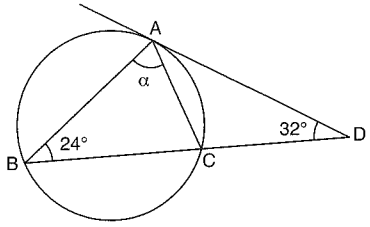


$m(\widehat{BAC}) = 48°$

$\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 96 B) 78 C) 56 D) 48 E) 24

15.



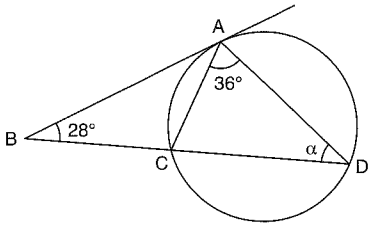
$m(\widehat{ABD}) = 24°$

$m(\widehat{ADB}) = 32°$

$\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 112 B) 100 C) 98 D) 84 E) 72

16.



$m(\widehat{ABD}) = 28°$

$m(\widehat{CAD}) = 36°$

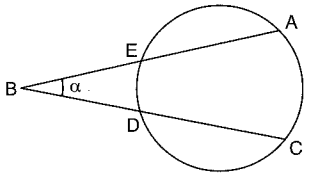
$\Rightarrow m(\widehat{ADB}) = \alpha = ?$

A) 36 B) 48 C) 52 D) 58 E) 64

PUZA YAYINLARI

www.ztcprep.com

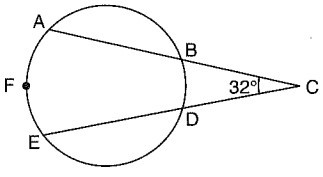
1.



$m(\widehat{AC}) = 80°$
$m(\widehat{ED}) = 20°$
$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 30 B) 50 C) 60 D) 80 E) 100

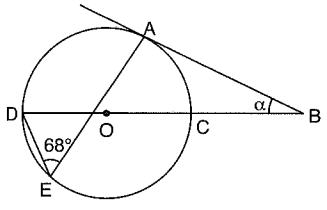
2.



$m(\widehat{BD}) = 40°$
$m(\widehat{ACE}) = 32°$
$\Rightarrow m(\widehat{AFE}) = ?$

A) 4 B) 56 C) 64 D) 104 E) 114

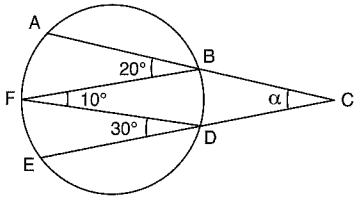
3.



O merkezli çember
A Circle with a center O
$m(\widehat{DEA}) = 68°$
$\Rightarrow m(\widehat{ABD}) = \alpha = ?$

A) 22 B) 44 C) 46 D) 68 E) 76

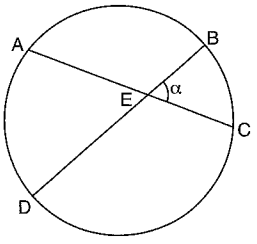
4.



$m(\widehat{ABF}) = 20°$
$m(\widehat{BFD}) = 10°$
$m(\widehat{FDE}) = 30°$
$\Rightarrow m(\widehat{ACE}) = \alpha = ?$

A) 120 B) 80 C) 60 D) 40 E) 20

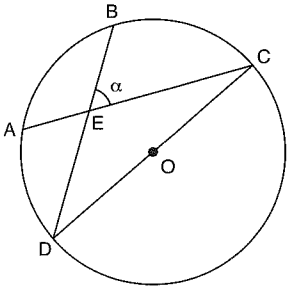
5.



$m(\widehat{BC}) = 40°$
$m(\widehat{AD}) = 56°$
$\Rightarrow m(\widehat{BEC}) = \alpha = ?$

A) 20 B) 28 C) 36 D) 48 E) 96

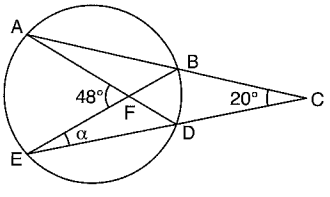
6.



O merkezli çember
A Circle with a center O
$m(\widehat{AB}) = 50°$
$\Rightarrow m(\widehat{BEC}) = \alpha = ?$

A) 115 B) 100 C) 85 D) 75 E) 65

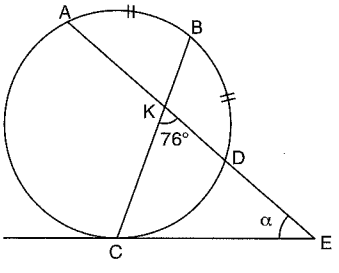
7.



$m(\widehat{AFE}) = 48°$
$m(\widehat{ACE}) = 20°$
$\Rightarrow m(\widehat{BED}) = \alpha = ?$

A) 8 B) 10 C) 14 D) 20 E) 24

8.

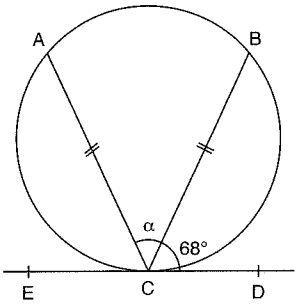


$m(\widehat{AB}) = m(\widehat{BD})$
$m(\widehat{CKE}) = 76°$
$\Rightarrow m(\widehat{AEC}) = \alpha = ?$

A) 28 B) 38 C) 42 D) 56 E) 76

PUZA YAYINLARI

9.



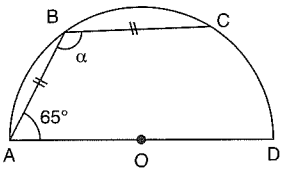
$|AC| = |BC|$

$m(\widehat{BCD}) = 68°$

$\Rightarrow m(\widehat{ACB}) = \alpha = ?$

A) 34 B) 44 C) 56 D) 68 E) 88

10.



O merkezli yarım çember

A semi circle with a center O

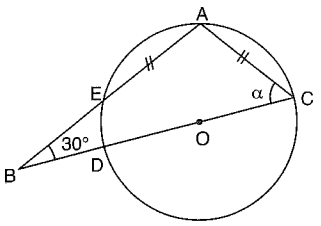
$|AB| = |BC|$

$m(\widehat{BAD}) = 65°$

$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 70 B) 85 C) 110 D) 120 E) 130

11.



O merkezli çember

A Circle with a center O

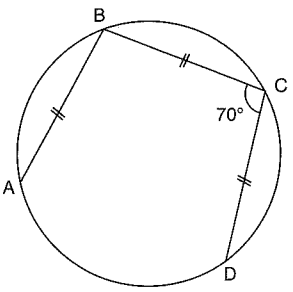
$|EA| = |AC|$

$m(\widehat{ABC}) = 30°$

$\Rightarrow m(\widehat{ACB}) = \alpha = ?$

A) 20 B) 40 C) 50 D) 60 E) 70

12.



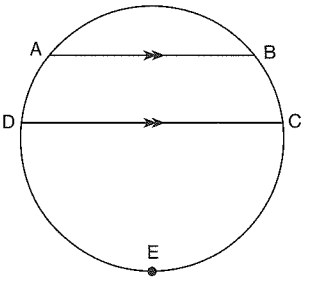
$|AB| = |BC| = |CD|$

$m(\widehat{BCD}) = 70°$

$\Rightarrow m(\widehat{AD}) = ?$

A) 30 B) 45 C) 60 D) 70 E) 90

13.



[AB] // [DC]

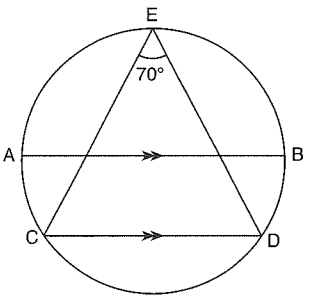
$m(\widehat{AB}) = 50°$

$m(\widehat{DEC}) = 240°$

$\Rightarrow m(\widehat{AD}) = ?$

A) 35 B) 55 C) 70 D) 85 E) 90

14.



[AB] çaplı çember

A Circle with a diameter [AB]

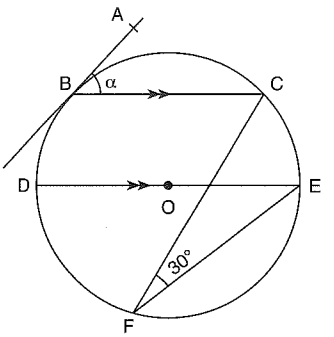
[AB] // [CD]

$m(\widehat{CED}) = 70°$

$\Rightarrow m(\widehat{AC}) = ?$

A) 10 B) 20 C) 30 D) 40 E) 50

15.



O merkezli çember

A Circle with a center O

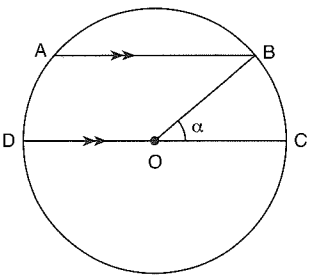
[BC] // [DE]

$m(\widehat{CFE}) = 30°$

$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 75 B) 70 C) 60 D) 45 E) 30

16.



O merkezli çember

A Circle with a center O

[AB] // [DC]

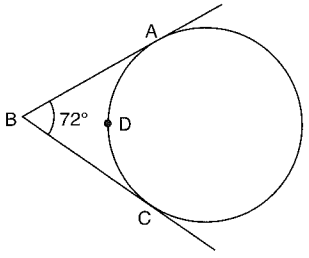
$m(\widehat{AB}) = 80°$

$\Rightarrow m(\widehat{BOC}) = \alpha = ?$

A) 80 B) 60 C) 50 D) 40 E) 25

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

1.

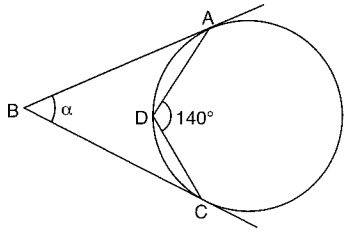


$m(\widehat{ABC}) = 72°$

$\Rightarrow m(\widehat{ADC}) = ?$

A) 36 B) 72 C) 108 D) 144 E) 156

2.

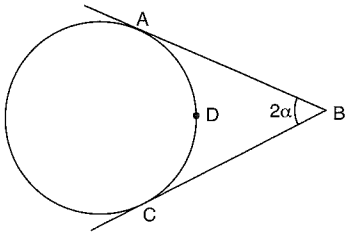


$m(\widehat{ADC}) = 140°$

$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 35 B) 40 C) 70 D) 80 E) 100

3.



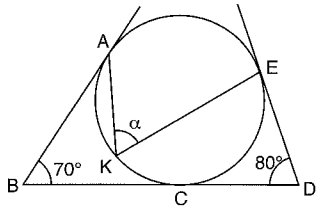
$m(\widehat{ADC}) = 4\alpha$

$m(\widehat{ABC}) = 2\alpha$

$\Rightarrow \alpha = ?$

A) 15 B) 30 C) 45 D) 60 E) 75

4.



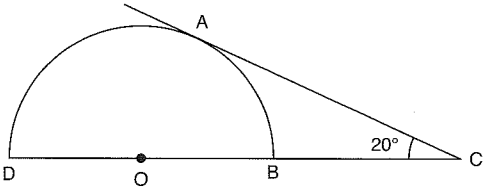
$m(\widehat{ABD}) = 70°$

$m(\widehat{EDB}) = 80°$

$\Rightarrow m(\widehat{AKE}) = \alpha = ?$

A) 30 B) 45 C) 60 D) 75 E) 90

5.

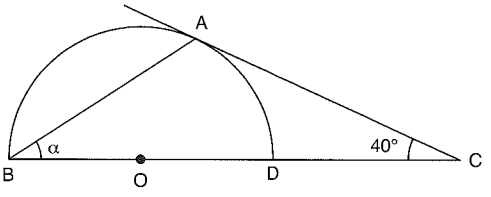


O merkezli yarım çember *A semi circle with a center O*

$m(\widehat{ACD}) = 20°$ $\Rightarrow m(\widehat{AB}) = ?$

A) 20 B) 40 C) 60 D) 70 E) 160

6.

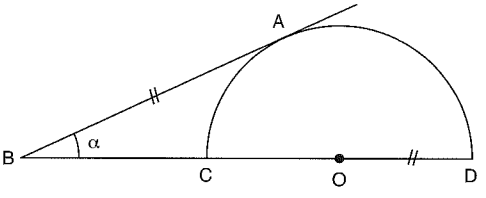


O merkezli yarım çember *A semi circle with a center O*

$m(\widehat{ACB}) = 40°$ $\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 20 B) 25 C) 40 D) 50 E) 70

7.

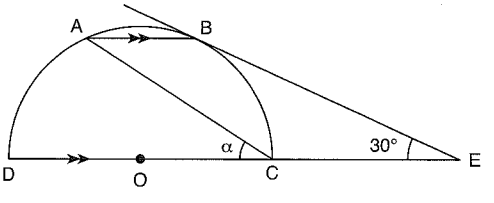


O merkezli yarım çember *A semi circle with a center O*

$|AB| = |OD|$ $\Rightarrow m(\widehat{ABD}) = \alpha = ?$

A) 15 B) 30 C) 45 D) 60 E) 75

8.



O merkezli yarım çember *A semi circle with a center O*

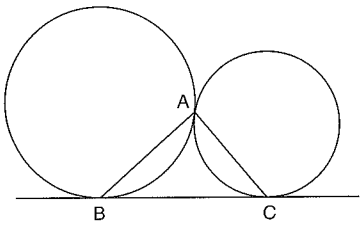
$[AB] \,//\, [DE]$ $m(\widehat{BED}) = 30°$ $\Rightarrow m(\widehat{ACD}) = \alpha = ?$

A) 15 B) 30 C) 45 D) 60 E) 75

PUZA YAYINLARI

www.ztcprep.com

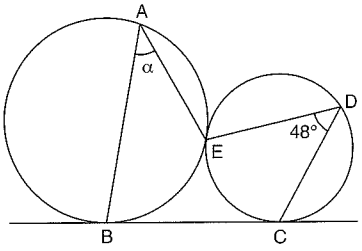
9.



$\Rightarrow m(\widehat{BAC}) = ?$

A) 90 B) 75 C) 60 D) 45 E) 30

10.

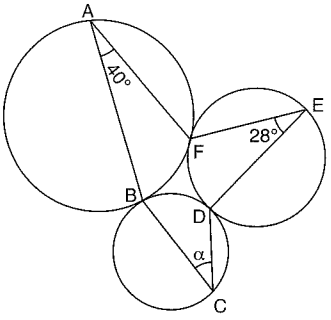


$m(\widehat{EDC}) = 48°$

$\Rightarrow m(\widehat{BAE}) = \alpha = ?$

A) 24 B) 42 C) 48 D) 84 E) 96

11.



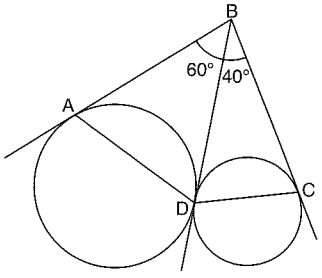
$m(\widehat{BAF}) = 40°$

$m(\widehat{FED}) = 28°$

$\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 12 B) 22 C) 32 D) 48 E) 68

12.



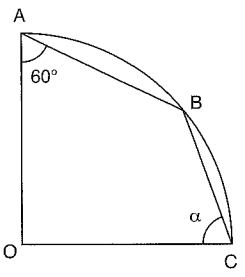
$m(\widehat{ABD}) = 60°$

$m(\widehat{DBC}) = 40°$

$\Rightarrow m(\widehat{ADC}) = ?$

A) 60 B) 80 C) 100 D) 120 E) 130

13.



O merkezli çeyrek çember

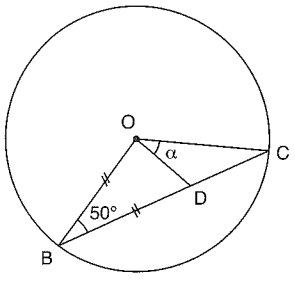
A quarter circle with a center O

$m(\widehat{OAB}) = 60°$

$\Rightarrow m(\widehat{BCO}) = \alpha = ?$

A) 75 B) 60 C) 45 D) 30 E) 15

14.



O merkezli çember

A Circle with a center O

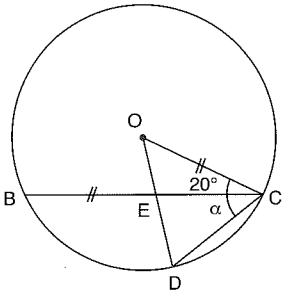
$|OB| = |BD|$

$m(\widehat{OBC}) = 50°$

$\Rightarrow m(\widehat{DOC}) = \alpha = ?$

A) 5 B) 10 C) 15 D) 20 E) 25

15.



O merkezli çember

A Circle with a center O

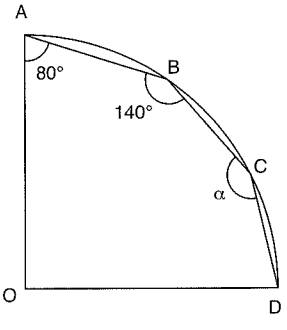
$|BE| = |OC|$

$m(\widehat{OCB}) = 20°$

$\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 10 B) 15 C) 20 D) 25 E) 40

16.



O merkezli çeyrek çember

A quarter circle with a center O

$m(\widehat{OAB}) = 80°$

$m(\widehat{ABC}) = 140°$

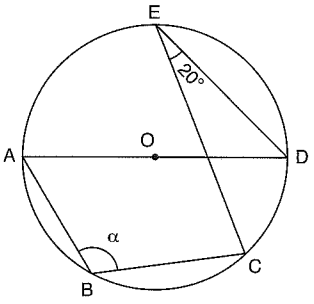
$\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 110 B) 125 C) 130 D) 145 E) 160

PUZA YAYINLARI

www.ztcprep.com

1.



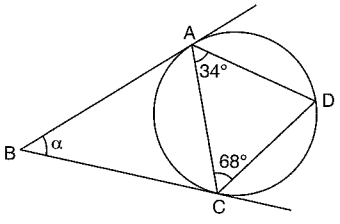
O merkezli çember
A Circle with a center O

$m(\widehat{CED}) = 20°$

$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 110 B) 120 C) 130 D) 140 E) 200

2.



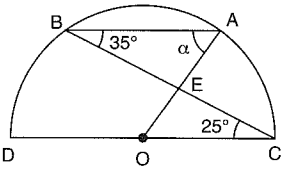
$m(\widehat{DAC}) = 34°$

$m(\widehat{ACD}) = 68°$

$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 24 B) 36 C) 42 D) 48 E) 54

3.



O merkezli yarım çember
A semi circle with a center O

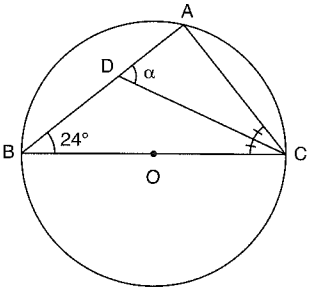
$m(\widehat{ABC}) = 35°$

$m(\widehat{BCD}) = 25°$

$\Rightarrow m(\widehat{BAO}) = \alpha = ?$

A) 20 B) 35 C) 45 D) 55 E) 60

4.



O merkezli çember
A Circle with a center O

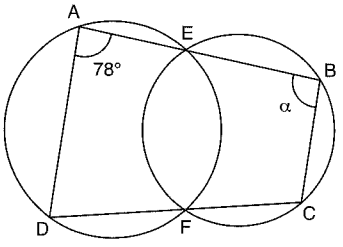
$m(\widehat{ACD}) = m(\widehat{DCB})$

$m(\widehat{ABC}) = 24°$

$\Rightarrow m(\widehat{ADC}) = \alpha = ?$

A) 57 B) 48 C) 38 D) 36 E) 33

5.

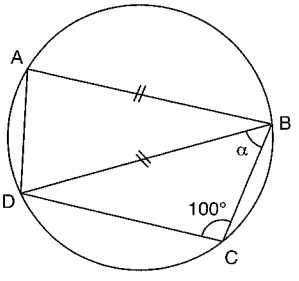


$m(\widehat{DAB}) = 78°$

$\Rightarrow m(\widehat{ABC}) = \alpha = ?$

A) 12 B) 39 C) 78 D) 102 E) 112

6.



$|AB| = |BD|$

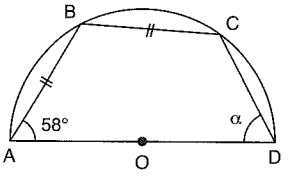
$[AB] \,//\, [DC]$

$m(\widehat{BCD}) = 100°$

$\Rightarrow m(\widehat{DBC}) = \alpha = ?$

A) 20 B) 40 C) 50 D) 60 E) 80

7.



O merkezli yarım çember
A semi circle with a center O

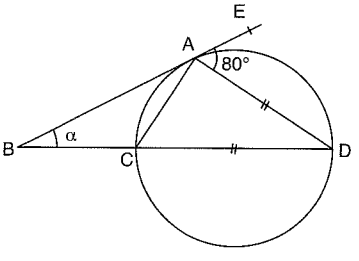
$|AB| = |BC|$

$m(\widehat{BAD}) = 58°$

$\Rightarrow m(\widehat{CDA}) = \alpha = ?$

A) 128 B) 108 C) 66 D) 64 E) 54

8.



$m(\widehat{EAD}) = 80°$

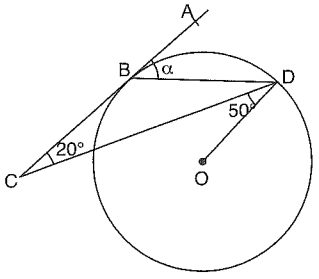
$|AD| = |DC|$

$\Rightarrow m(\widehat{ABD}) = \alpha = ?$

A) 15 B) 20 C) 30 D) 45 E) 60

PUZA YAYINLARI

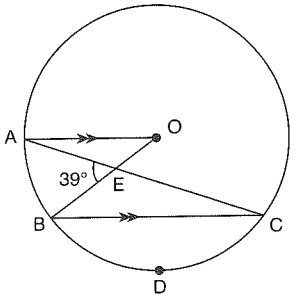
9.



O merkezli çember
A Circle with O
$m(\widehat{ACD}) = 20°$
$m(\widehat{ODC}) = 50°$
$\Rightarrow m(\widehat{ABD}) = \alpha = ?$

A) 30 B) 40 C) 50 D) 60 E) 80

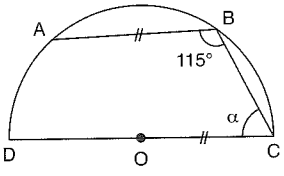
10.



O merkezli çember
A Circle with a center O
[AO] // [BC]
$m(\widehat{AEB}) = 39°$
$\Rightarrow m(\widehat{BDC}) = ?$

A) 128 B) 108 C) 94 D) 84 E) 72

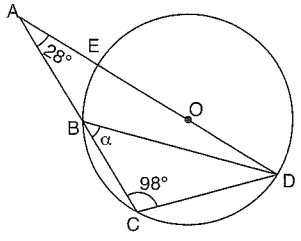
11.



O merkezli yarım çember
A semi circle with center O
$|AB| = |OC|$
$m(\widehat{ABC}) = 115°$
$\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 30 B) 40 C) 45 D) 50 E) 55

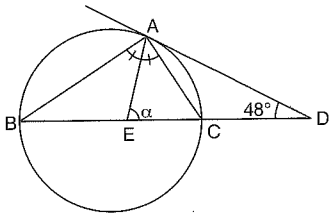
12.



O merkezli çember
A Circle with a center O
$m(\widehat{CAD}) = 28°$
$m(\widehat{ACD}) = 98°$
$\Rightarrow m(\widehat{DBC}) = \alpha = ?$

A) 36 B) 40 C) 44 D) 45 E) 52

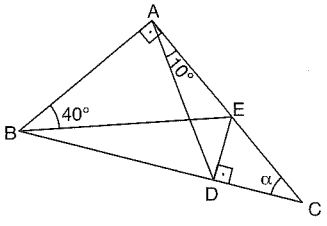
13.



$m(\widehat{BAE}) = m(\widehat{EAC})$
$m(\widehat{ADB}) = 48°$
$\Rightarrow m(\widehat{AED}) = \alpha = ?$

A) 24 B) 48 C) 66 D) 72 E) 78

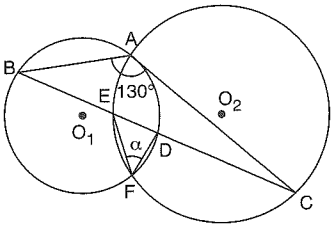
14.



[BA] ⊥ [AC]
[ED] ⊥ [BC]
$m(\widehat{DAC}) = 10°$
$m(\widehat{ABE}) = 40°$
$\Rightarrow m(\widehat{ACB}) = \alpha = ?$

A) 10 B) 20 C) 30 D) 40 E) 50

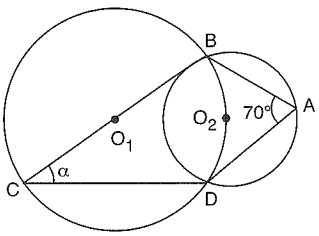
15.



O_1 ve O_2 merkezli çemberler
Circle with central points O_1 and O_2
$m(\widehat{BAC}) = 130°$
$\Rightarrow m(\widehat{EFD}) = \alpha = ?$

A) 30 B) 45 C) 50 D) 65 E) 80

16.



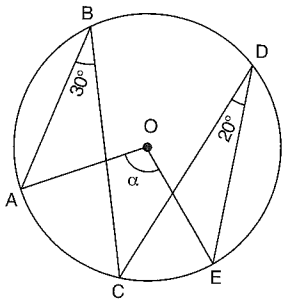
O_1 ve O_2 merkezli çemberler
Circle with central points O_1 and O_2
$O_2 \in (\widehat{BD})$
$m(\widehat{BAD}) = 70°$
$\Rightarrow m(\widehat{BCD}) = \alpha = ?$

A) 10 B) 20 C) 30 D) 40 E) 50

PUZA YAYINLARI

www.ztcprep.com

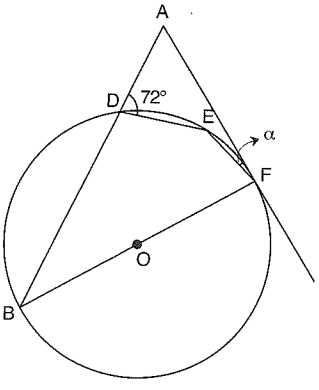
1.



O merkezli çember
A Circle with center O
$m(\widehat{ABC}) = 30°$
$m(\widehat{CDE}) = 20°$
$\Rightarrow m(\widehat{AOE}) = \alpha = ?$

A) 25 B) 50 C) 75 D) 100 E) 150

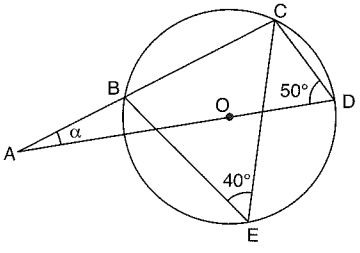
2.



O merkezli çember
A Circle with center O
$m(\widehat{ADE}) = 72°$
$\Rightarrow m(\widehat{EFA}) = \alpha = ?$

A) 9 B) 18 C) 27 D) 36 E) 48

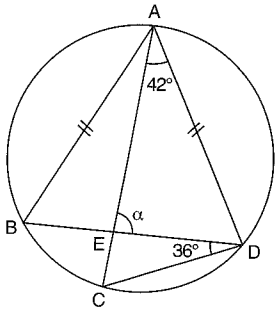
3.



O merkezli çember
A Circle with center O
$m(\widehat{CDA}) = 50°$
$m(\widehat{BEC}) = 40°$
$\Rightarrow m(\widehat{CAD}) = \alpha = ?$

A) 10 B) 15 C) 20 D) 25 E) 30

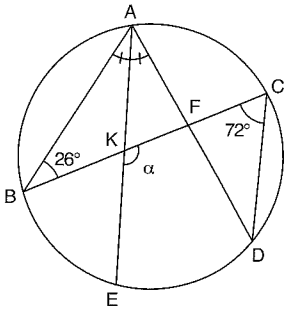
4.



$|AB| = |AD|$
$m(\widehat{CAD}) = 42°$
$m(\widehat{BDC}) = 36°$
$\Rightarrow m(\widehat{AED}) = \alpha = ?$

A) 45 B) 53 C) 62 D) 65 E) 87

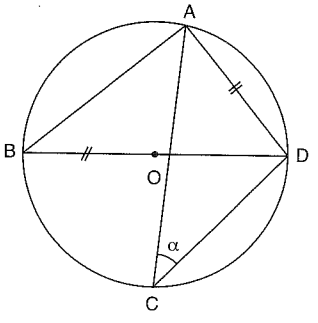
5.



$m(\widehat{BAE}) = m(\widehat{EAD})$
$m(\widehat{ABC}) = 26°$
$m(\widehat{BCD}) = 72°$
$\Rightarrow m(\widehat{EKC}) = \alpha = ?$

A) 44 B) 48 C) 52 D) 62 E) 118

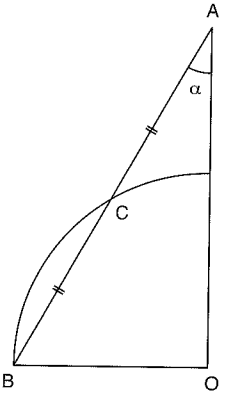
6.



O merkezli çember
A Circle with center O
$|BO| = |AD|$
$\Rightarrow m(\widehat{ACD}) = \alpha = ?$

A) 15 B) 30 C) 45 D) 60 E) 75

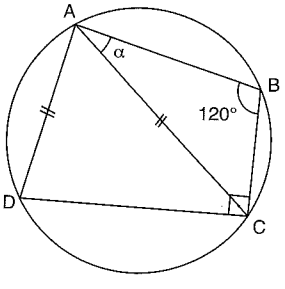
7.



O merkezli çeyrek çember
A quarter circle with center O
$|AC| = |CB|$
$\Rightarrow m(\widehat{BAO}) = \alpha = ?$

A) 45 B) 40 C) 30 D) 20 E) 10

8.



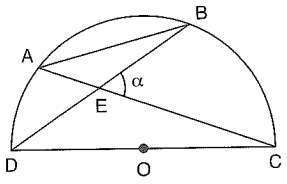
$|AD| = |AC|$
$[BC] \perp [DC]$
$m(\widehat{ABC}) = 120°$
$\Rightarrow m(\widehat{BAC}) = \alpha = ?$

A) 10 B) 15 C) 30 D) 40 E) 45

PUZA YAYINLARI

www.ztcprep.com

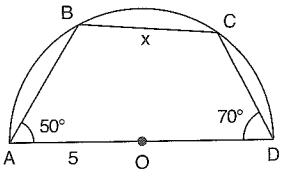
9.



O merkezli yarım çember
A semi circle with center O
$|AB| = |DO| = 4$ br
$\Rightarrow m(\widehat{BEC}) = \alpha = ?$

A) 20 B) 30 C) 45 D) 50 E) 60

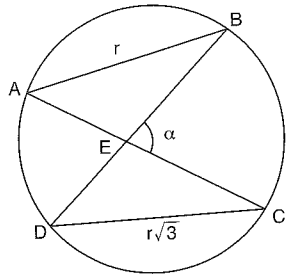
10.



O merkezli yarım çember
A semi circle with center O
$m(\widehat{BAD}) = 50°$
$m(\widehat{CDA}) = 70°$
$|AO| = 5$ br
$\Rightarrow |BC| = x = ?$

A) $\frac{5}{2}$ B) 5 C) $5\sqrt{2}$ D) $5\sqrt{3}$ E) 20

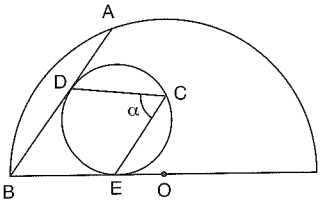
11.



r yarıçaplı çember
circle of radius r
$|AB| = r$ br
$|DC| = r\sqrt{3}$ br
$\Rightarrow m(\widehat{BEC}) = \alpha = ?$

A) 30 B) 45 C) 60 D) 75 E) 90

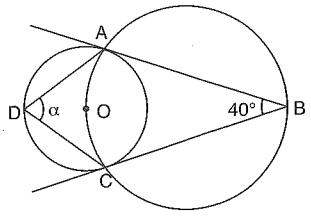
12.



O merkezli yarım çember
A semi circle with center O
$m(\widehat{AB}) = 80°$
$\Rightarrow m(\widehat{DCE}) = \alpha = ?$

A) 130 B) 100 C) 80 D) 65 E) 50

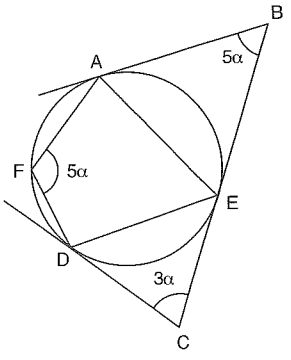
13.



O merkezli çember
A circle with center O
$O \in (\widehat{AC})$
$m(\widehat{ABC}) = 40°$
$\Rightarrow m(\widehat{ADC}) = \alpha = ?$

A) 40 B) 50 C) 70 D) 80 E) 100

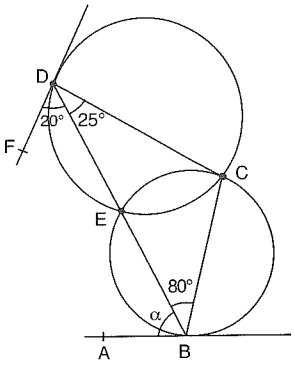
14.



$m(\widehat{ABC}) = 5\alpha$
$m(\widehat{BCD}) = 3\alpha$
$m(\widehat{AFD}) = 5\alpha$
$\Rightarrow m(\widehat{AED}) = ?$

A) 40 B) 60 C) 80 D) 100 E) 120

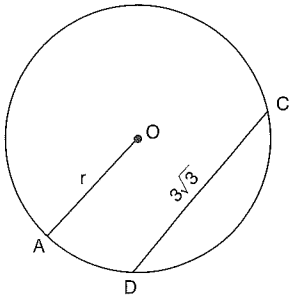
15.



$m(\widehat{FDB}) = 20°$
$m(\widehat{BDC}) = 25°$
$m(\widehat{DBC}) = 80°$
$\Rightarrow m(\widehat{DBA}) = \alpha = ?$

A) 55 B) 50 C) 45 D) 40 E) 35

16.



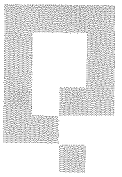
O merkezli çember
A Circle with center O
$|DC| = 3\sqrt{3}$ br
$m(\widehat{CD}) = 120°$
$\Rightarrow |OA| = r = ?$

A) $\frac{3}{2}$ B) 3 C) $3\sqrt{2}$ D) $3\sqrt{3}$ E) 6

PUZA YAYINLARI

www.ztcprep.com

ZTC زنگنه مجموعه موسسات



ÇEMBERDE AÇI ANGLE IN CIRCLE

Yanıt Anahtarı Answer Key

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	C	E	C	D	D	B	B	A	A	E	C	A	B	D	D

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	D	C	C	C	E	D	B	D	E	A	E	B	D	B	D

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	D	C	D	D	E	C	A	B	E	C	A	A	B	E	C

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	E	B	D	D	B	C	B	A	B	B	E	A	C	E	D

TEST 5

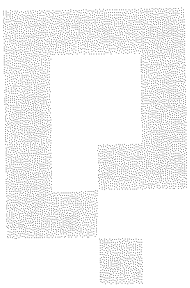
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	A	E	A	D	D	D	E	A	A	E	A	C	D	C	D

TEST 6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	B	E	E	E	B	C	C	E	B	E	D	C	C	A	B

www.ztcprep.com

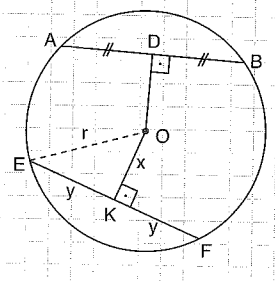
زنگنه ZTC
مجموعه موسسات



ÇEMBERDE UZUNLUK
LENGTH IN CIRCLE

www.ztcprep.com

ÖZELLİK | Property 1

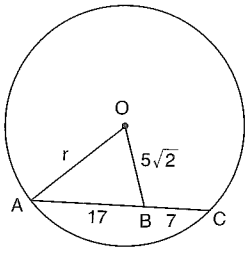


$[OD] \perp [AB] \Rightarrow |AD| = |DB|$

$|OD| > |OK|$ $|AB| < |EF|$

$x^2 + y^2 = r^2$

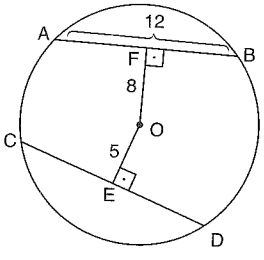
1.



$\Rightarrow r = ?$

13

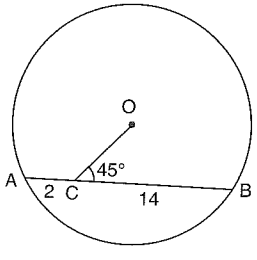
2.



$\Rightarrow |CD| = ?$

$10\sqrt{3}$

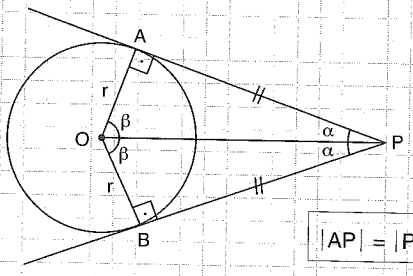
3.



$\Rightarrow r = ?$

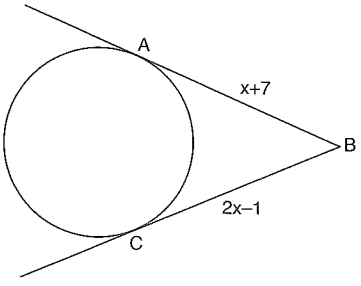
10

ÖZELLİK | Property 2



$|AP| = |PB|$

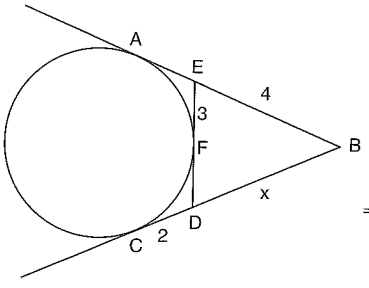
1.



$\Rightarrow x = ?$

8

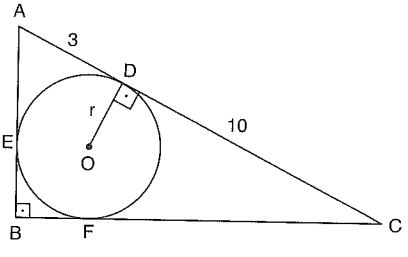
2.



$\Rightarrow |BD| = x = ?$

5

3.



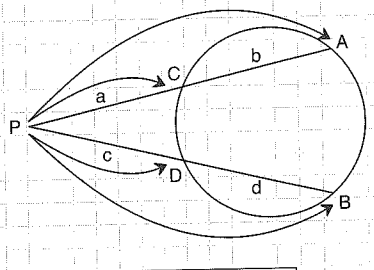
$\Rightarrow r = ?$

2

PUZA YAYINLARI

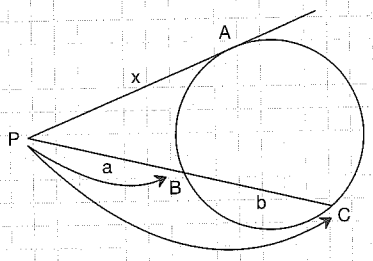
www.ztcprep.com

ÖZELLİK|Property 3



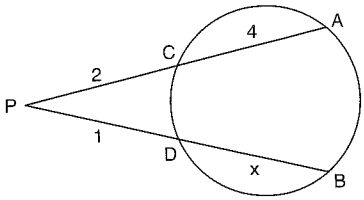
$a(a + b) = c(c + d)$

ÖZELLİK|Property 4



$x^2 = a(a + b)$

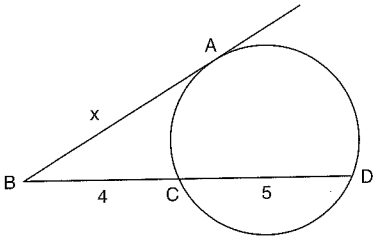
1.



$\Rightarrow x = ?$

11

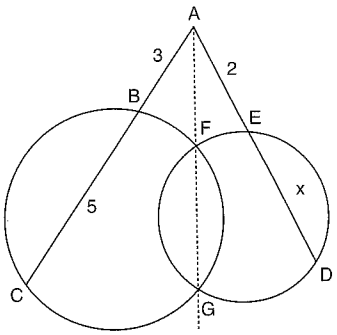
1.



$\Rightarrow x = ?$

6

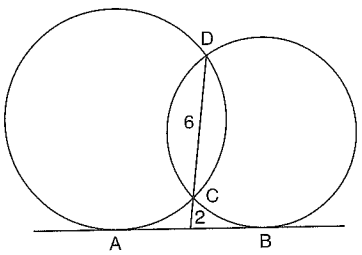
2.



$\Rightarrow x = ?$

10

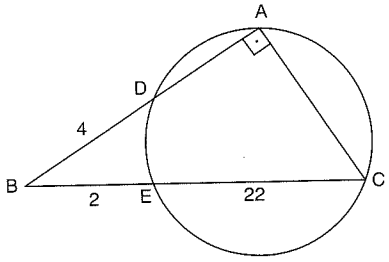
2.



$\Rightarrow |AB| = ?$

8

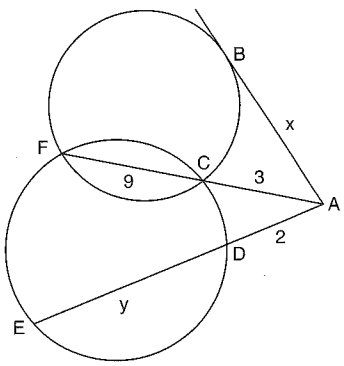
3.



$\Rightarrow r = ?$

$2\sqrt{31}$

3.



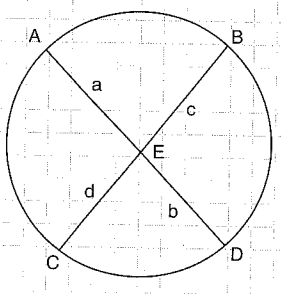
$\Rightarrow y - x = ?$

10

PUZA YAYINLARI

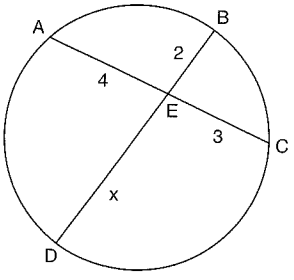
www.ztcprep.com

ÖZELLİK | Property 5



$a \cdot b = c \cdot d$

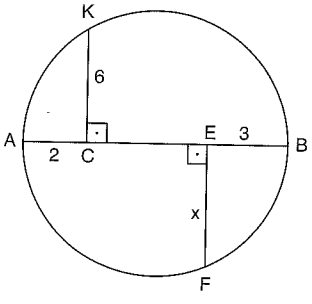
1.



$\Rightarrow x = ?$

6

2.

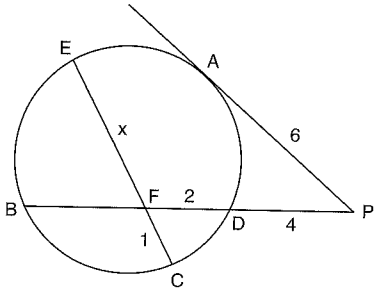


[AB] çaplı çember
Circle with a diameter [AB]

$\Rightarrow |EF| = x = ?$

$\sqrt{51}$

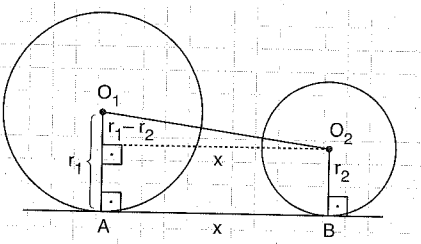
3.



$\Rightarrow x = ?$

6

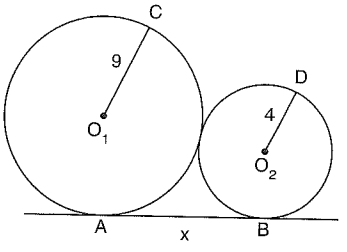
ÖZELLİK | Property 6



$|O_1O_2|^2 = (r_1 - r_2)^2 + x^2$

- Merkezden merkeze doğru çek.
  Draw from the center to center.
- Teğetlere dik indir.
  Draw a normal perpendicular to the tangential.
- Dik üçgen oluşturarak istenilen uzunluğu bul.
  Find the desired length by forming a right triangle.

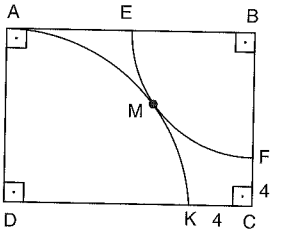
1.



$\Rightarrow x = ?$

12

2.

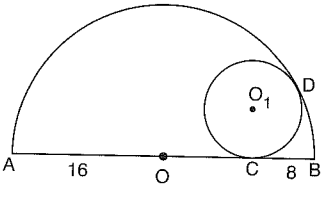


B ve D merkezli çeyrek çemberler
quarter circles with B and D center points

$\Rightarrow A(ABCD) = ?$

192

3.



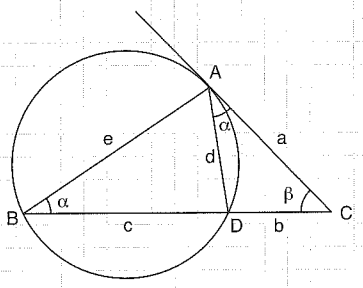
$\Rightarrow r_1 = ?$

6

PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK | Property 7

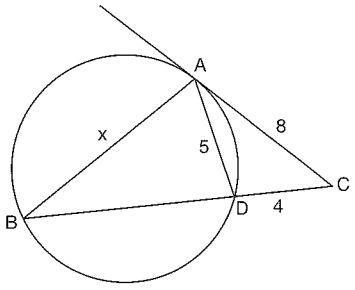


$(\widehat{ABC}) \approx (\widehat{DAC})$ Benzer üçgenler

Similar triangles

$$\frac{d}{e} = \frac{b}{a} = \frac{a}{b+c}$$

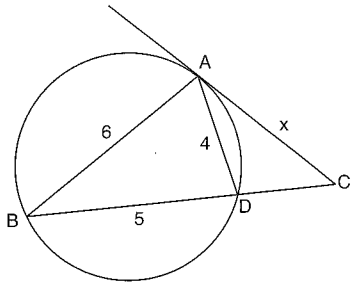
1.



$\Rightarrow x = ?$

10

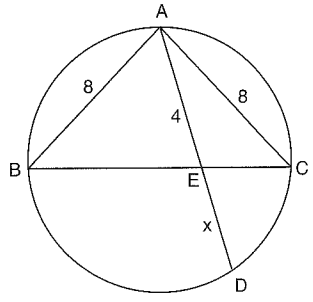
2.



$\Rightarrow x = ?$

6

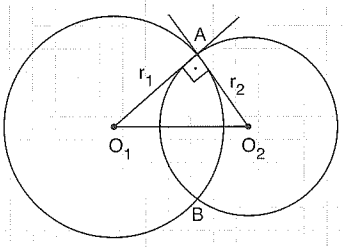
3.



$\Rightarrow x = ?$

12

ÖZELLİK | Property 8

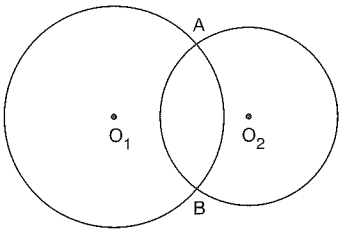


Çemberler dik kesişiyor

The circles intersect perpendicularly

$$(r_1)^2 + (r_2)^2 = |O_1O_2|^2$$

1.



Çemberler dik kesişiyor

The circles intersect perpendicularly

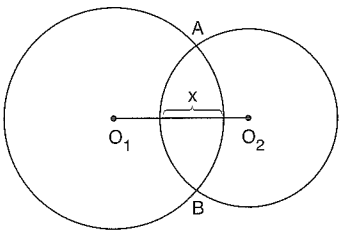
$r_1 = 6$

$r_2 = 8$

$\Rightarrow |O_1\ O_2| = ?$

10

2.



Çemberler dik kesişiyor

The circles intersect perpendicularly

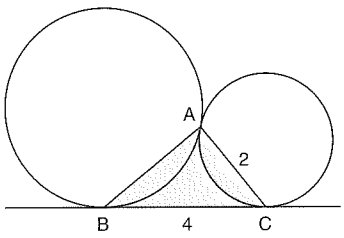
$r_1 = 12$

$r_2 = 5$

$\Rightarrow x = ?$

4

3.



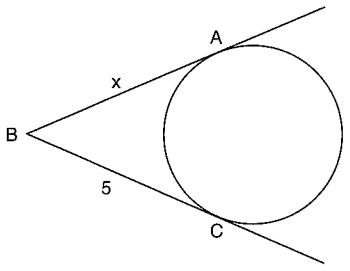
$\Rightarrow A(ABC) = ?$

$2\sqrt{3}$

© PUZA YAYINLARI

www.ztcprep.com

1.

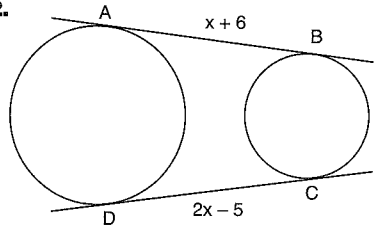


$|BC| = 5$ br

$\Rightarrow |AB| = x = ?$

A) $\frac{3}{2}$ B) 2 C) $\frac{5}{2}$ D) 5 E) $\frac{15}{2}$

2.



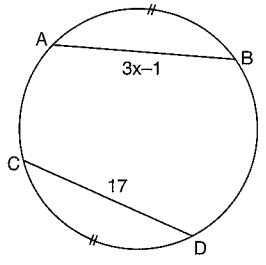
$|AB| = (x + 6)$ br

$|DC| = (2x - 5)$ br

$\Rightarrow x = ?$

A) 1 B) 3 C) 5 D) 7 E) 11

3.



$m(\overset{\frown}{AB}) = m(\overset{\frown}{CD})$

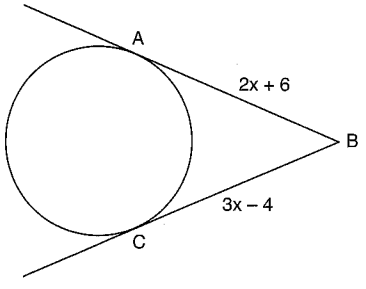
$|AB| = 3x - 1$ br

$|CD| = 17$ br

$\Rightarrow x = ?$

A) 4 B) 5 C) $\frac{16}{3}$ D) 6 E) $\frac{20}{3}$

4.



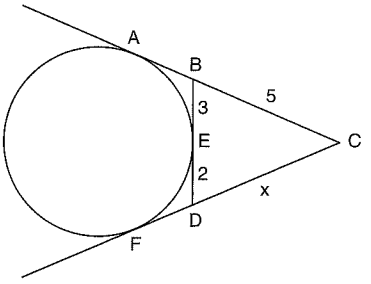
$|AB| = 2x + 6$

$|BC| = 3x - 4$

$\Rightarrow x = ?$

A) 2 B) 4 C) 6 D) 8 E) 10

5.



$|BE| = 3$ br

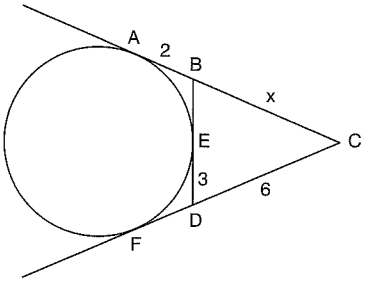
$|ED| = 2$ br

$|BC| = 5$ br

$\Rightarrow |DC| = x = ?$

A) 7 B) 6 C) 5 D) 4 E) 3

6.



$|AB| = 2$ br

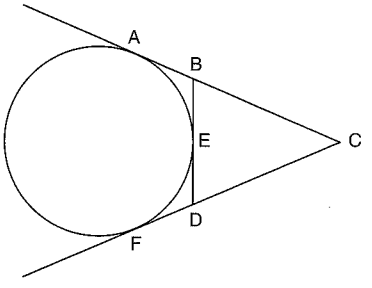
$|ED| = 3$ br

$|DC| = 6$ br

$\Rightarrow |BC| = x = ?$

A) 7 B) 6 C) 5 D) 4 E) 3

7.

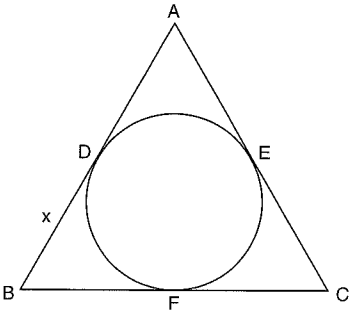


$|AC| = 8$ br

$\Rightarrow Ç(BDC) = ?$

A) 4 B) 8 C) 16 D) 24 E) 32

8.



$|AB| = 7$ br

$|AC| = 9$ br

$|BC| = 8$ br

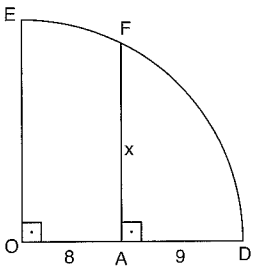
$\Rightarrow |BD| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

PUZA YAYINLARI

www.ztcprep.com

9.



O merkezli çeyrek çember

A quarter circle with a center O

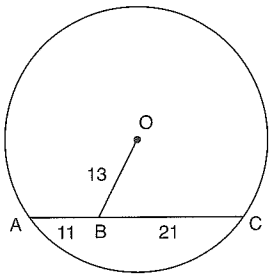
$|OA| = 8$ br

$|AD| = 9$ br

$\Rightarrow |FA| = x = ?$

A) 5 B) 9 C) 12 D) 15 E) 17

10.



O merkezli çemberin yarıçapı r

Radius r of a circle with a center O

$|OB| = 13$ br

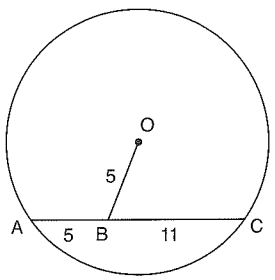
$|AB| = 11$ br

$|BC| = 21$ br

$\Rightarrow r = ?$

A) 20 B) 16 C) 15 D) 13 E) 12

11.



O merkezli çemberin yarıçapı r

Radius r of a circle with a center O

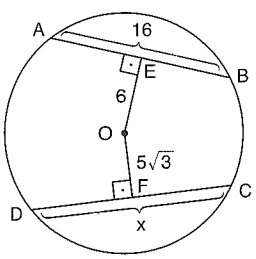
$|OB| = |AB| = 5$ br

$|BC| = 11$ br

$\Rightarrow r = ?$

A) 5 B) $2\sqrt{5}$ C) 10 D) $4\sqrt{5}$ E) $8\sqrt{5}$

12.



O merkezli çember

A circile with a center O

$|AB| = 16$ br

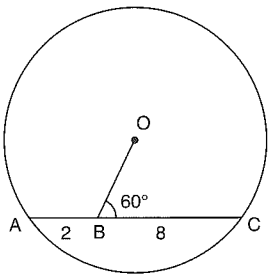
$|OE| = 6$ br

$|OF| = 5\sqrt{3}$ br

$\Rightarrow |DC| = x = ?$

A) 20 B) 16 C) 12 D) 10 E) 8

13.



O merkezli çemberin yarıçapı r

Radius r of a circle with a center O

$m(\widehat{OBC}) = 60°$

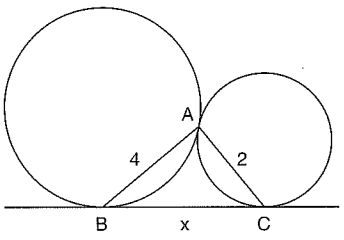
$|AB| = 2$ br

$|BC| = 8$ br

$\Rightarrow r = ?$

A) $4\sqrt{3}$ B) 7 C) $2\sqrt{13}$ D) 8 E) 10

14.



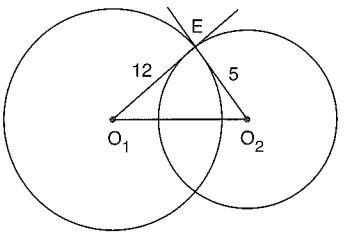
$|AB| = 4$ br

$|AC| = 2$ br

$\Rightarrow |BC| = x = ?$

A) $\sqrt{5}$ B) $2\sqrt{5}$ C) 5 D) 8 E) $4\sqrt{5}$

15.



O_1 ve O_2 merkezli çemberler dik kesişiyor.

Circles with O_1 and O_2 center intersect perpendicularly

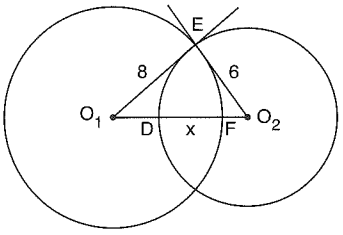
$|O_1E| = 12$ br

$|O_2E| = 5$ br

$\Rightarrow |O_1O_2| = ?$

A) 17 B) 15 C) 13 D) 12 E) 7

16.



O_1 ve O_2 merkezli çemberler dik kesişiyor.

Circles with O_1 and O_2 center intersect perpendicularly

$|O_1E| = 8$ br

$|O_2E| = 6$ br

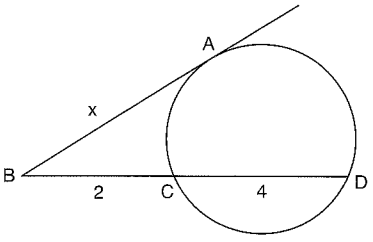
$\Rightarrow |DF| = x = ?$

A) 2 B) 4 C) 5 D) 6 E) 8

PUZA YAYINLARI

www.ztcprep.com

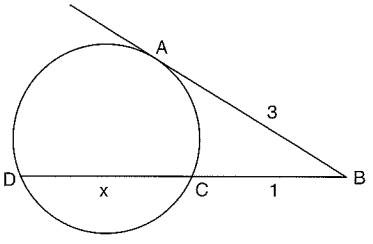
1.



$|BC| = 2$ br
$|CD| = 4$ br
$\Rightarrow |AB| = x = ?$

A) $2\sqrt{2}$ B) $2\sqrt{3}$ C) 4 D) $2\sqrt{5}$ E) 5

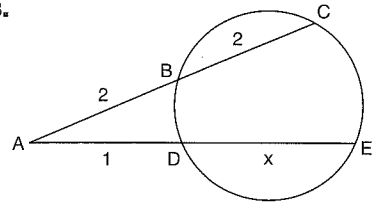
2.



$|AB| = 3$ br
$|BC| = 1$ br
$\Rightarrow |DC| = x = ?$

A) 8 B) $4\sqrt{5}$ C) 5 D) $2\sqrt{5}$ E) 3

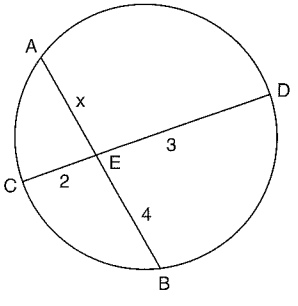
3.



$|AB| = |BC| = 2$ br
$|AD| = 1$ br
$\Rightarrow |DE| = x = ?$

A) 8 B) 7 C) 6 D) 5 E) 4

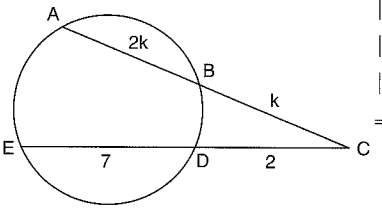
4.



$|CE| = 2$ br
$|ED| = 3$ br
$|EB| = 4$ br
$\Rightarrow |AE| = x = ?$

A) $\frac{3}{2}$ B) 2 C) $\frac{5}{2}$ D) 3 E) $\frac{7}{2}$

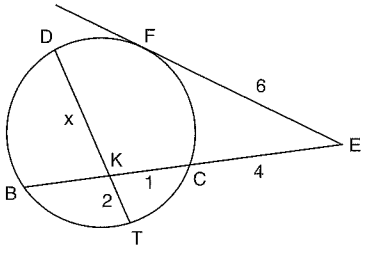
5.



$|AB| = 2|BC| = 2k$
$|DC| = 2$ br
$|ED| = 7$ br
$\Rightarrow k = ?$

A) 2 B) $\sqrt{5}$ C) $\sqrt{6}$ D) 3 E) $2\sqrt{3}$

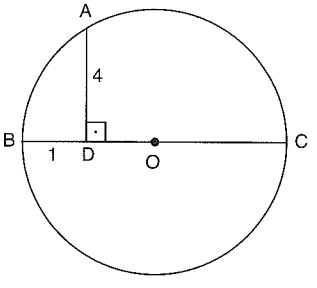
6.



$|EF| = 6$ br
$|EC| = 4$ br
$|KC| = 1$ br
$|KT| = 2$ br
$\Rightarrow |DK| = x = ?$

A) 2 B) 3 C) 4 D) 5 E) 6

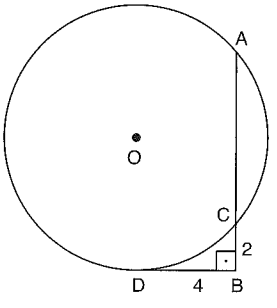
7.



O merkezli çemberin yarıçapı r
Radius r of a circle with a center O
$[AD] \perp [BC]$
$|AD| = 4$ br
$|BD| = 1$ br
$\Rightarrow r = ?$

A) 4 B) 6 C) $\frac{15}{2}$ D) 8 E) $\frac{17}{2}$

8.

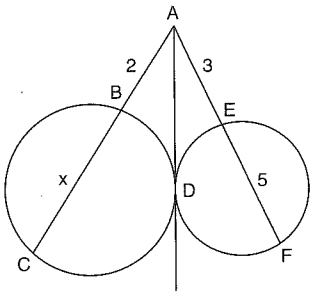


O merkezli çemberin yarıçapı r
Radius r of a circle with a center O
$|DB| = 2|BC| = 4$ br
$\Rightarrow r = ?$

A) 4 B) 5 C) 6 D) 8 E) 10

www.ztcprep.com

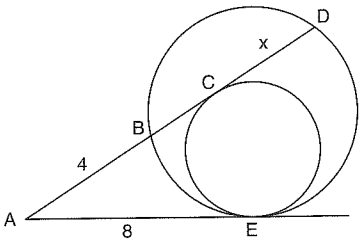
9.



$|AE| = 3$ br
$|EF| = 5$ br
$|AB| = 2$ br
$\Rightarrow |BC| = x = ?$

A) 2 B) 4 C) 6 D) 8 E) 10

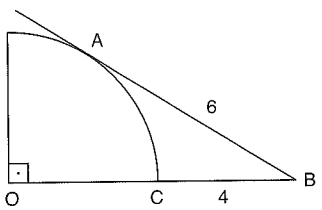
10.



$|AB| = 4$ br
$|AE| = 8$ br
$\Rightarrow |CD| = x = ?$

A) 4 B) 6 C) 8 D) 10 E) 12

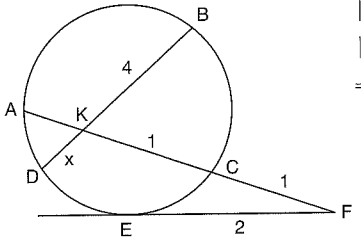
11.



O merkezli çeyrek çemberin yarıçapı r
Radius r of a quarter circle with a center O
$|AB| = 6$ br
$|BC| = 4$ br
$\Rightarrow r = ?$

A) $\frac{5}{4}$ B) $\frac{5}{2}$ C) 5 D) $\frac{15}{2}$ E) 10

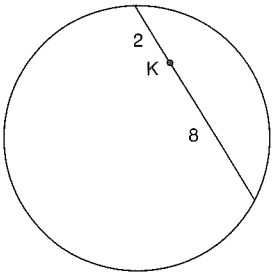
12.



$|KC| = |CF| = 1$ br
$|BK| = 2|EF| = 4$ br
$\Rightarrow |DK| = x = ?$

A) $\frac{1}{2}$ B) 1 C) $\frac{3}{2}$ D) 2 E) $\frac{5}{2}$

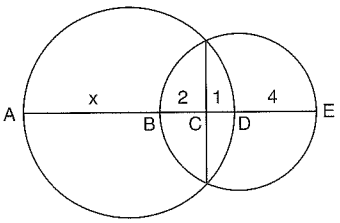
13.



K noktasından geçen en kısa kirişin uzunluğu kaç br dir?
How many unit is the length of the shortest chord that passes trought the point K?

A) 4 B) 6 C) 8 D) 10 E) 12

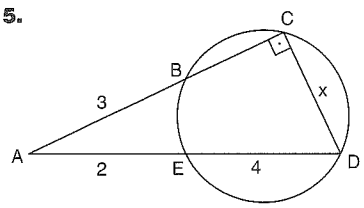
14.



$|BC| = 2$ br
$|CD| = 1$ br
$|DE| = 4$ br
$\Rightarrow |AB| = x = ?$

A) 10 B) 8 C) 6 D) 4 E) 2

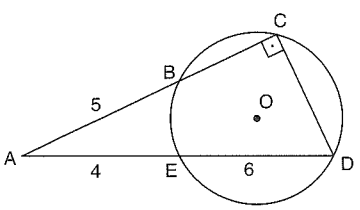
15.



$[AC] \perp [CD]$
$|AB| = 3$ br
$|AE| = 2$ br
$|ED| = 4$ br
$\Rightarrow |CD| = x = ?$

A) $2\sqrt{2}$ B) $2\sqrt{3}$ C) 4 D) $2\sqrt{5}$ E) 5

16.



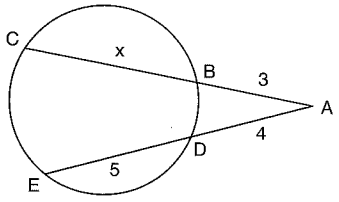
O merkezli çemberin yarıçapı r
Radius r of a circle with a center O
$[AC] \perp [CD]$
$|AB| = 5$ br
$|ED| = 6$ br
$|AE| = 4$ br
$\Rightarrow r = ?$

A) $\sqrt{5}$ B) $\frac{3\sqrt{5}}{2}$ C) 5 D) $3\sqrt{5}$ E) 10

PUZA YAYINLARI

www.ztcprep.com

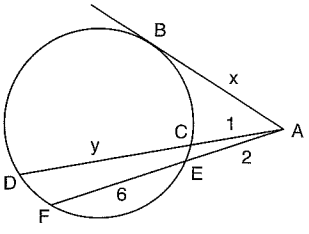
1.



$|AB| = 3$ br
$|AD| = 4$ br
$|ED| = 5$ br
$\Rightarrow |CB| = x = ?$

A) 7 B) 8 C) 9 D) 10 E) 11

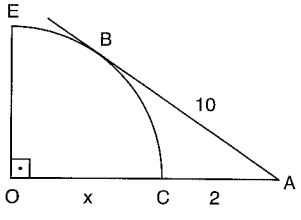
2.



$|AC| = 1$ br
$|AE| = 2$ br
$|EF| = 6$ br
$|AB| = x$
$|DC| = y$
$\Rightarrow x + y = ?$

A) 15 B) 16 C) 16 D) 18 E) 19

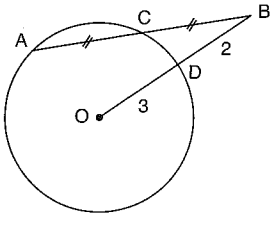
3.



O merkezli çeyrek çember
A quarter circle with a center O
$|AB| = 10$ br
$|AC| = 2$ br
$[AO] \perp [OE]$
$\Rightarrow |OC| = x = ?$

A) 24 B) 26 C) 30 D) 48 E) 50

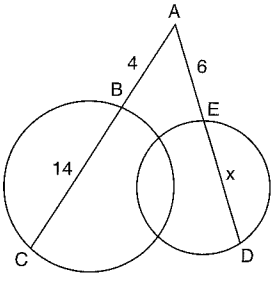
4.



O merkezli çember
A circle with a center O
$|CB| = |AC|$
$|BD| = 2$ br
$|OD| = 3$ br
$\Rightarrow |AB| = ?$

A) $2\sqrt{2}$ B) $4\sqrt{2}$ C) $8\sqrt{2}$ D) $16\sqrt{2}$ E) $18\sqrt{2}$

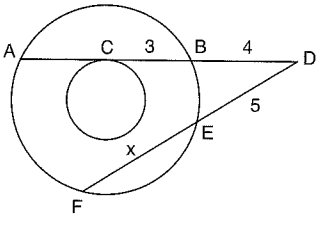
5.



$|AB| = 4$ br
$|AE| = 6$ br
$|BC| = 14$ br
$\Rightarrow |ED| = x = ?$

A) 2 B) 3 C) 4 D) 5 E) 6

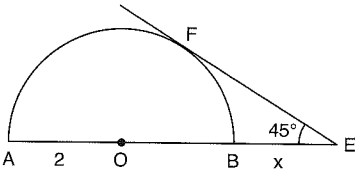
6.



$|ED| = 5$ br
$|CB| = 3$ br
$|BD| = 4$ br
$\Rightarrow |FE| = x = ?$

A) 2 B) 3 C) 4 D) 5 E) 6

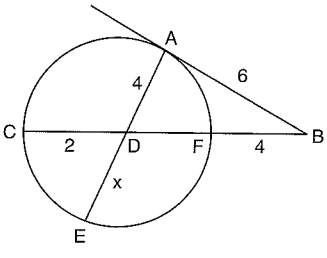
7.



O merkezli yarım çember
A semi circle with a center O
$m(\widehat{FEA}) = 45°$
$|OA| = 2$ br
$\Rightarrow |BE| = x = ?$

A) $2\sqrt{2}$ B) $2\sqrt{2} - 2$ C) $4\sqrt{2}$
D) $2\sqrt{2} + 2$ E) $4\sqrt{2} - 2$

8.

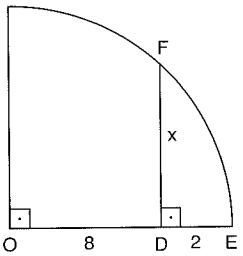


$|AB| = 6$ br
$|DA| = 4$ br
$|CD| = 2$ br
$|FB| = 4$ br
$\Rightarrow |DE| = x = ?$

A) $\frac{5}{2}$ B) 2 C) $\frac{3}{2}$ D) 1 E) $\frac{1}{2}$

PUZA YAYINLARI

9.



O merkezli çeyrek çember

A quarter circle with a center O

$|OD| = 8$ br

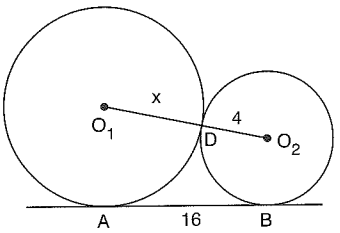
$|DE| = 2$ br

$[FD] \perp [OE]$

$\Rightarrow |DF| = x = ?$

A) 2 B) $2\sqrt{2}$ C) 4 D) 6 E) $6\sqrt{2}$

10.



O_1 ve O_2 merkez

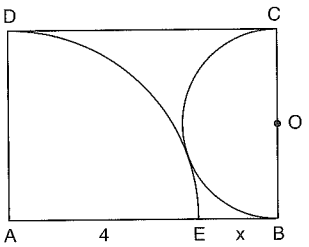
$|DO_2| = 4$ br

$|AB| = 16$ br

$\Rightarrow |DO_1| = x = ?$

A) 16 B) 10 C) 9 D) 8 E) 7

11.



A merkezli çeyrek çember

A quarter circle with a center A

O merkezli yarım çember

A semi circle with a center O

ABCD dikdörtgen

ABCD rectangle

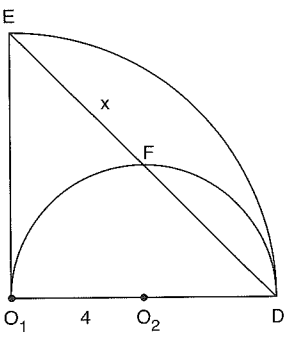
$|AE| = 4$ br

$\Rightarrow |EB| = x = ?$

A) $4\sqrt{2} - 4$ B) $2\sqrt{2}$ C) $2\sqrt{2} + 2$

D) $2\sqrt{2} - 2$ E) $4\sqrt{2} - 2$

12.



O_1 ve O_2 merkezli çemberler

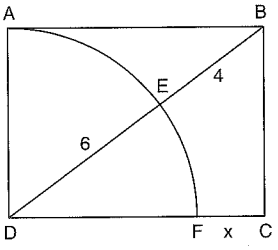
Circles with O_1 and O_2 center points

$|O_1O_2| = 4$ br

$\Rightarrow |EF| = x = ?$

A) $2\sqrt{2}$ B) 3 C) $3\sqrt{2}$ D) 4 E) $4\sqrt{2}$

13.



D merkezli çeyrek çember

A quarter circle with a center D

ABCD dikdörtgen

ABCD rectangle

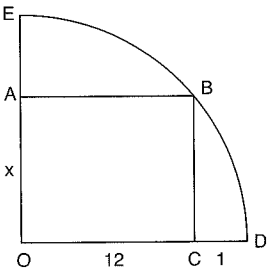
$|DE| = 6$ br

$|EB| = 4$ br

$\Rightarrow |FC| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

14.



ABCO dikdörtgen

ABCO rectangle

O merkezli çeyrek çember

A quarter circle with a center O

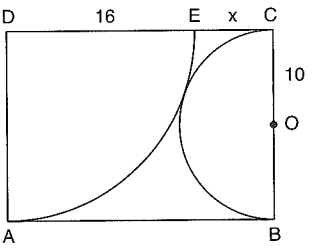
$|OC| = 12$ br

$|CD| = 1$ br

$\Rightarrow |AO| = x = ?$

A) 2 B) 3 C) 4 D) 5 E) 6

15.



ABCD dikdörtgen

ABCD rectangle

D ve O merkezli çemberler

Circles with D and O center points

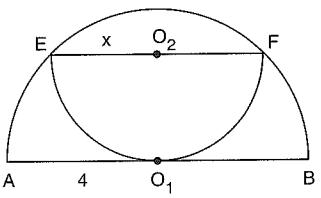
$|DE| = 16$ br

$|CO| = 10$ br

$\Rightarrow |EC| = x = ?$

A) 2 B) 4 C) 6 D) 8 E) 12

16.



$|AO_1| = 4$ br

O_1 ve O_2 merkezli yarım çemberler

Semi circles with O_1 and O_2 center points

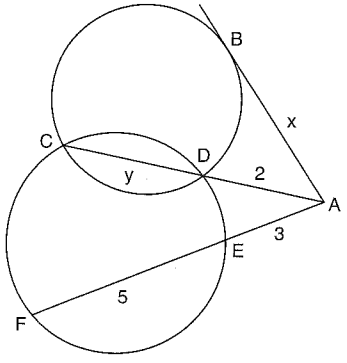
$\Rightarrow |EO_2| = x = ?$

A) $\sqrt{2}$ B) 2 C) $2\sqrt{2}$ D) 4 E) $4\sqrt{2}$

PUZA YAYINLARI

www.ztcprep.com

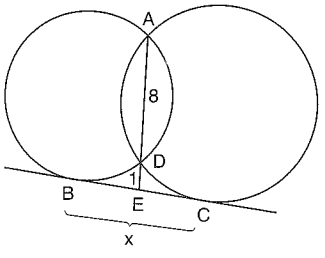
1.



$|AD| = 2$ br
$|AE| = 3$ br
$|EF| = 5$ br
$|AB| = x$
$|DC| = y$
$\Rightarrow \frac{x}{y} = ?$

A) $\frac{\sqrt{3}}{5}$ B) $\frac{\sqrt{6}}{5}$ C) 2 D) $2\sqrt{3}$ E) 4

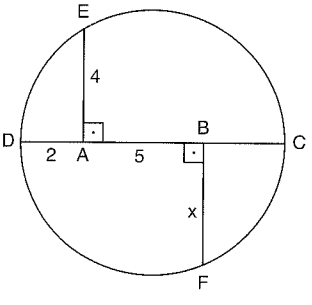
2.



$|DE| = 1$ br
$|AD| = 8$ br
$\Rightarrow |BC| = x = ?$

A) $\frac{3}{2}$ B) 3 C) 6 D) 9 E) 18

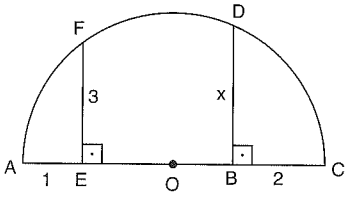
3.



[DC] çaplı çember
Circle with a diameter [DC]
$[EA] \perp [DC]$
$[FB] \perp [DC]$
$|EA| = 4$ br
$|DA| = 2$ br
$|AB| = 5$ br
$\Rightarrow |BF| = x = ?$

A) 4 B) $\sqrt{21}$ C) 5 D) 8 E) $2\sqrt{21}$

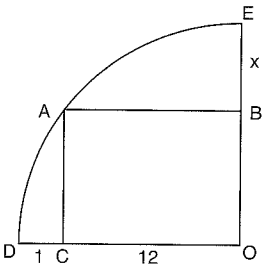
4.



O merkezli yarım çember
A semi circle with a center O
$[FE] \perp [AC]$
$[DB] \perp [AC]$
$|FE| = 3$ br
$|AE| = 1$ br
$|BC| = 2$ br
$\Rightarrow |DB| = x = ?$

A) 2 B) 3 C) 4 D) 5 E) 6

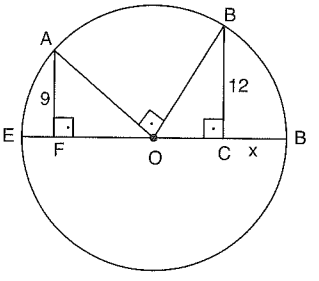
5.



O merkezli çeyrek çember
A quarter circle with a center O
ABOC dikdörtgen
ABOC rectangle
$|CO| = 12$ br
$|DC| = 1$ br
$\Rightarrow |BE| = x = ?$

A) 5 B) 7 C) 8 D) 10 E) 12

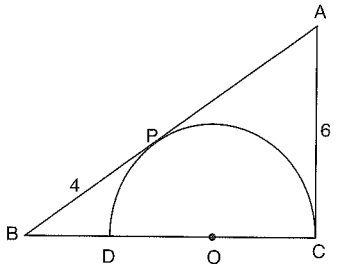
6.



O merkezli çember
A Circle with center O
$[AF] \perp [EB]$
$[BC] \perp [EB]$
$|BC| = 12$ br
$|AF| = 9$ br
$\Rightarrow |CB| = x = ?$

A) 15 B) 12 C) 9 D) 6 E) 5

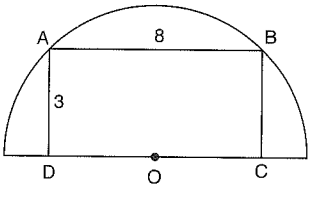
7.



O merkezli yarım çemberin yarıçapı r
Radius r of a semi circle with a center O
$|AC| = 6$ br
$|BP| = 4$ br
$\Rightarrow r = ?$

A) 8 B) 6 C) 5 D) 4 E) 3

8.



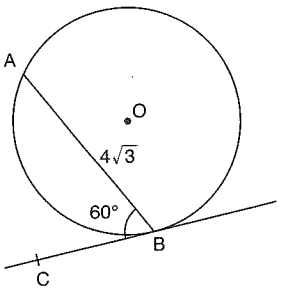
O merkezli yarım çemberin yarıçapı r
Radius r of a semi circle with a center O
ABCD dikdörtgen
ABCD rectangle
$|AD| = 3$ br
$|AB| = 8$ br
$\Rightarrow r = ?$

A) 4 B) 5 C) 6 D) 8 E) 10

PUZA YAYINLARI

www.ztcprep.com

9.



O merkezli çemberin yarıçapı r

Radius r of a circle with a center O

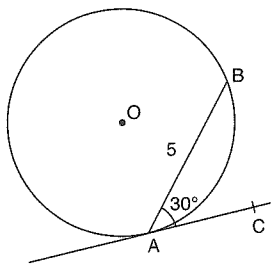
$m(\widehat{ABC}) = 60°$

$|AB| = 4\sqrt{3}$ br

$\Rightarrow r = ?$

A) 2 B) 4 C) $4\sqrt{3}$ D) 8 E) $8\sqrt{3}$

10.



O merkezli çemberin yarıçapı r

Radius r of a circle with a center O

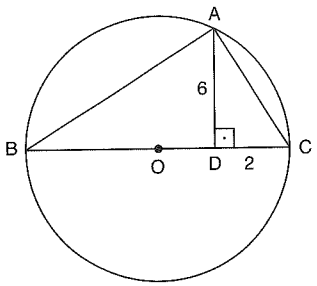
$|AB| = 5$ br

$m(\widehat{BAC}) = 30°$

$\Rightarrow r = ?$

A) $\frac{5}{2}$ B) 5 C) $5\sqrt{3}$ D) 10 E) $10\sqrt{3}$

11.



O merkezli çemberin yarıçapı r

Radius r of a circle with a center O

$[AD] \perp [BC]$

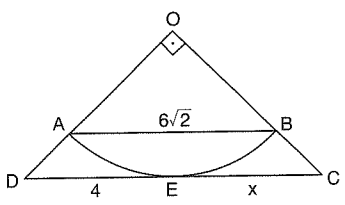
$|AD| = 6$ br

$|DC| = 2$ br

$\Rightarrow r = ?$

A) 6 B) $6\sqrt{2}$ C) 9 D) 10 E) $10\sqrt{2}$

12.



O merkezli çeyrek çember

A quarter circle with a center O

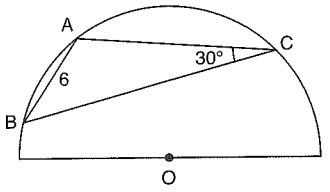
$|DE| = 4$ br

$|AB| = 6\sqrt{2}$ br

$\Rightarrow |EC| = x = ?$

A) 9 B) 8 C) 6 D) 5 E) 4

13.



O merkezli yarım çemberin yarıçapı r

Radius r of a semi circle with a center O

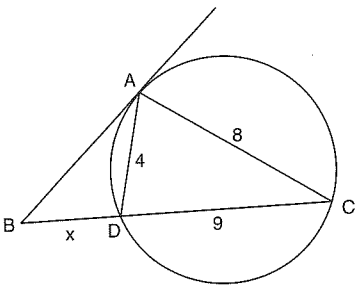
$m(\widehat{ACB}) = 30°$

$|AB| = 6$ br

$\Rightarrow r = ?$

A) $12\sqrt{3}$ B) 12 C) $6\sqrt{3}$ D) 6 E) $3\sqrt{3}$

14.



$|AD| = 4$ br

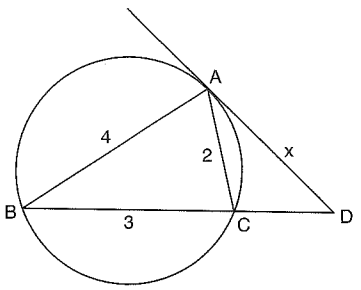
$|AC| = 8$ br

$|DC| = 9$ br

$\Rightarrow |BD| = x = ?$

A) 2 B) 3 C) $\frac{7}{2}$ D) $\frac{13}{3}$ E) 4

15.



$|AB| = 4$ br

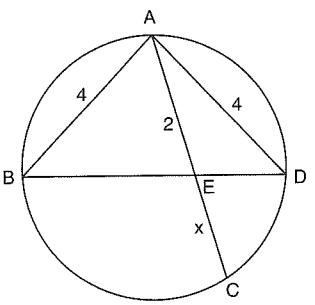
$|BC| = 3$ br

$|AC| = 2$ br

$\Rightarrow |AD| = x = ?$

A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3

16.



$|AB| = |AD| = 4$ br

$|AE| = 2$ br

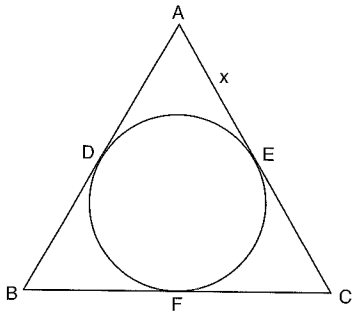
$\Rightarrow |EC| = x = ?$

A) 2 B) 4 C) 6 D) 8 E) 9

PUZA YAYINLARI

www.ztcprep.com

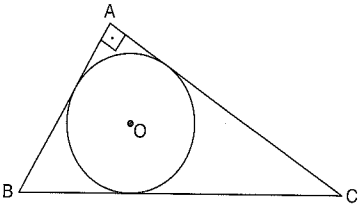
1.



|AB| = 6 br
|AC| = 8 br
|BC| = 4 br
⇒ |AE| = x = ?

A) 5 B) 4 C) 3 D) 2 E) 1

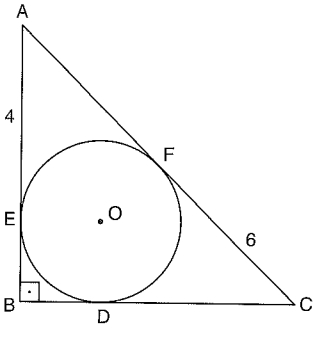
2.



O merkezli çemberin yarıçapı r
Radius r of a circle with a center O
[BA] ⊥ [AC]
|AB| = 6 br
|AC| = 8 br
⇒ r = ?

A) 5 B) 4 C) 3 D) 2 E) 1

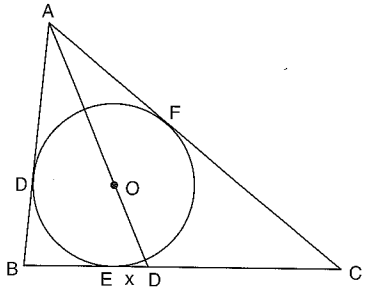
3.



O merkezli çemberin yarıçapı r
Radius r of a circle with a center O
[AB] ⊥ [BC]
|AE| = 4 br
|FC| = 6 br
⇒ r = ?

A) 5 B) 4 C) 3 D) 2 E) 1

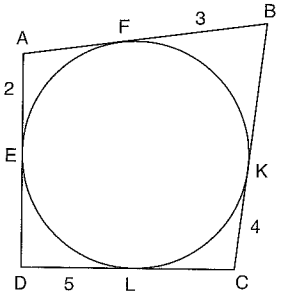
4.



O merkezli çember
A circle with a center O
|AB| = 8 br
|AC| = 12 br
|BC| = 10 br
⇒ |ED| = x = ?

A) $\frac{2}{5}$ B) $\frac{1}{2}$ C) 1 D) $\frac{3}{2}$ E) $\frac{5}{2}$

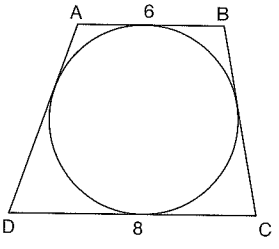
5.



|FB| = 3 br
|AE| = 2 br
|KC| = 4 br
|DL| = 5 br
⇒ Ç(ABCD) = ?

A) 14 B) 21 C) 28 D) 35 E) 42

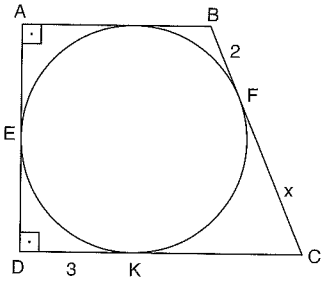
6.



|AB| = 6 br
|DC| = 8 br
⇒ Ç(ABCD) = ?

A) 14 B) 21 C) 28 D) 35 E) 42

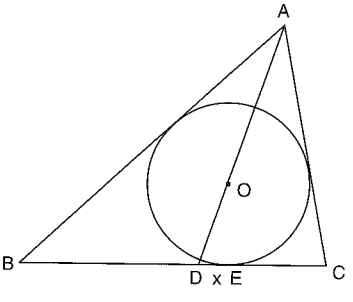
7.



ABCD dik yamuk
ABCD right trapezoid
|BF| = 2 br
|DK| = 3 br
⇒ |FC| = x = ?

A) 2,5 B) 3 C) 4 D) 4,5 E) 5

8.



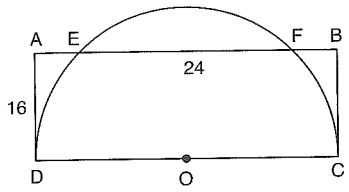
O merkezli çember
A circle with a center O
|AB| = 9 br
|AC| = 7 br
|BC| = 8 br
⇒ |DE| = x = ?

A) $\frac{1}{2}$ B) $\frac{3}{4}$ C) $\frac{4}{5}$ D) 1 E) $\frac{5}{4}$

PUZA YAYINLARI

www.ztcprep.com

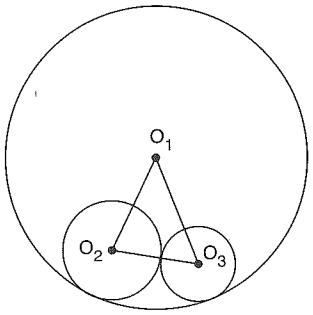
9.



ABCD dikdörtgen
ABCD rectangle
O merkezli yarım çemberin yarıçapı r
Radius r of a semi circle with a center O
|EF| = 24 br
|AD| = 16 br
⇒ r = ?

A) 20 B) 16 C) 15 D) 12 E) 9

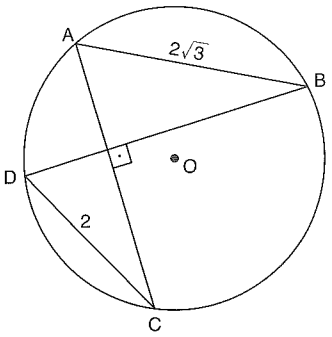
10.



O_1, O_2 ve O_3 merkezli çemberlerin yarıçapları sırasıyla r_1, r_2, r_3 tür.
The radii of the circles with the centers O_1, O_2 and O_3 are r_1, r_2, r_3 respectively.
Ç($O_1O_2O_3$) = 24 br
⇒ r_1 = ?

A) 6 B) 9 C) 12 D) 15 E) 24

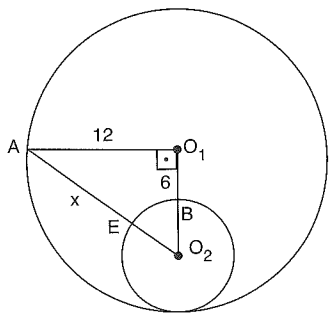
11.



O merkezli çemberin yarıçapı r
Radius r of a circle with a center O
|AB| = $2\sqrt{3}$ br
|DC| = 2 br
⇒ r = ?

A) 1 B) 2 C) $2\sqrt{2}$ D) $2\sqrt{3}$ E) 4

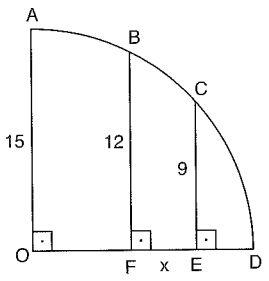
12.



O_1 ve O_2 merkezli çemberler
Circles with the centers O_1 and O_2
|O_1B| = 6 br
|O_1A| = 12 br
⇒ |AE| = x = ?

A) 3 B) 6 C) 9 D) 10 E) 12

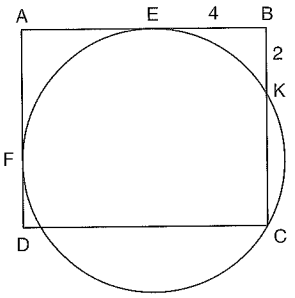
13.



O merkezli çeyrek çember
A quarter circle with a center O
[AO] ⊥ [OD]
[BF] ⊥ [OD]
[CE] ⊥ [OD]
|AO| = 15 br
|BF| = 12 br
|CE| = 9 br
⇒ |FE| = x = ?

A) 1 B) 3 C) 6 D) 7 E) 9

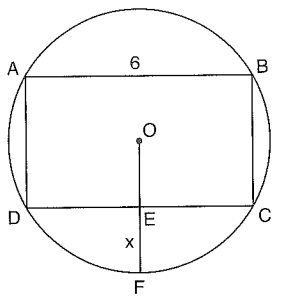
14.



ABCD dikdörtgen
ABCD rectangle
|EB| = 4 br
|BK| = 2 br
⇒ A(ABCD) = ?

A) 81 B) 72 C) 63 D) 54 E) 48

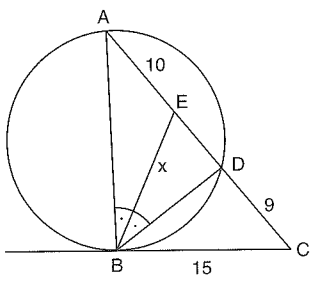
15.



O merkezli çember
A circle with a center O
ABCD kare
ABCD square
|AB| = 6 br
⇒ |EF| = x = ?

A) $3\sqrt{6}$ B) $3\sqrt{2}$ C) 3
D) $3-3\sqrt{2}$ E) $3\sqrt{2}-3$

16.



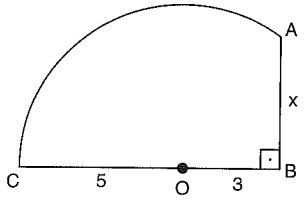
[AB] çap
[AB]diameter
m($\widehat{ABE}$) = m($\widehat{EBD}$)
|AE| = 10 br
|DC| = 9 br
|BC| = 15 br
⇒ |EB| = x = ?

A) 3 B) 6 C) $6\sqrt{5}$ D) 12 E) $12\sqrt{5}$

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

www.ztcprep.com

1.



O merkezli çember

Circle with a center O

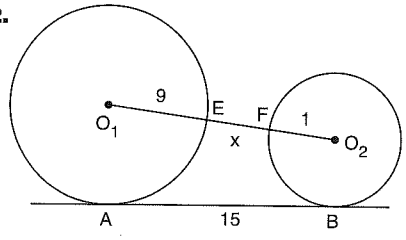
$|OB| = 3$ br

$|OC| = 5$ br

$\Rightarrow |AB| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 8

2.



O_1 ve O_2 merkezli çemberlerin yarıçapları sırasıyla 9 ve 1'dir.

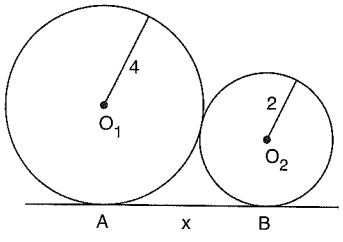
The radii of the circles with the centers O_1 and O_2 are 9 and 1 respectively.

$|AB| = 15$ br

$\Rightarrow |EF| = x = ?$

A) 10 B) 8 C) 7 D) 6 E) 5

3.



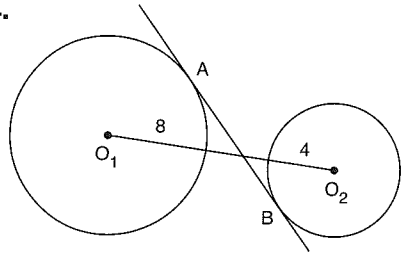
O_1 ve O_2 merkezli çemberlerin yarıçapları sırasıyla 4 ve 2'dir.

The radii of the circles with the centers O_1 and O_2 are 4 and 2 respectively.

$\Rightarrow |AB| = x = ?$

A) 5 B) $4\sqrt{2}$ C) 6 D) $4\sqrt{3}$ E) 8

4.



O_1 ve O_2 merkezli çemberlerin yarıçapları sırasıyla 8 ve 4'tür.

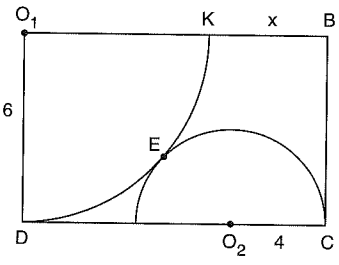
The radii of the circles with the centers O_1 and O_2 are 8 and 4 respectively.

$|AB| = 9$ br

$\Rightarrow |O_1O_2| = ?$

A) 15 B) 12 C) 9 D) 8 E) 6

5.



O_1BCD dikdörtgen

O_1BCD rectangle

O_1 ve O_2 merkezli çemberler

Circles with the centers O_1 and O_2

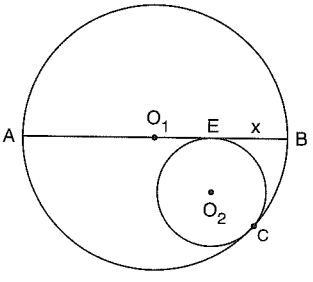
$|O_1D| = 6$ br

$|O_2C| = 4$ br

$\Rightarrow |KB| = x = ?$

A) 2 B) 3 C) 4 D) 5 E) 6

6.



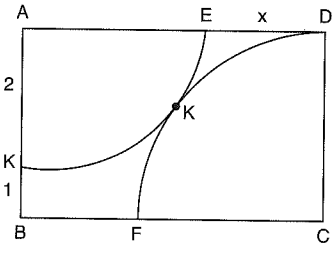
O_1 ve O_2 merkezli çemberlerin yarıçapları sırasıyla 9 ve 4'tür.

The radii of the circles with the centers O_1 and O_2 are 9 and 4 respectively.

$\Rightarrow |EB| = x = ?$

A) 7 B) 6 C) 5 D) 4 E) 3

7.



A ve C merkezli çeyrek çemberler

quarter circles with the centers A and C

ABCD dikdörtgen

ABCD rectangle

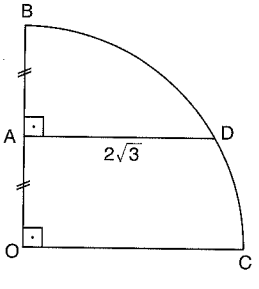
$|AK| = 2$ br

$|KB| = 1$ br

$\Rightarrow |ED| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

8.



O merkezli çeyrek çemberin yarıçapı r

Radius r of a quarter circle with a center O

$|BA| = |AO|$

$|BA| = 2\sqrt{3}$ br

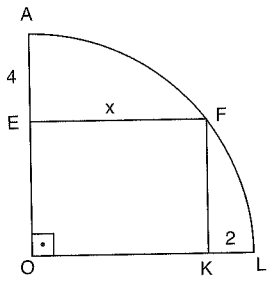
$\Rightarrow r = ?$

A) $4\sqrt{3}$ B) 6 C) 4 D) $2\sqrt{3}$ E) 2

PUZA YAYINLARI

www.ztcprep.com

9.



O merkezli çember

Circle with a center O

EFKO dikdörtgen

EFKO rectangle

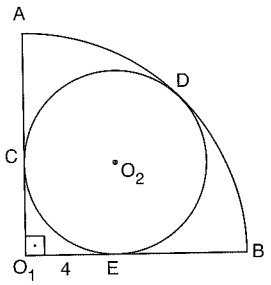
$|AE| = 4$ br

$|KL| = 2$ br

$\Rightarrow |EF| = x = ?$

A) 6 B) 7 C) 8 D) 9 E) 10

10.



O_1 ve O_2 merkezli çemberlerin yarıçapları sırasıyla r_1 ve r_2 dir.

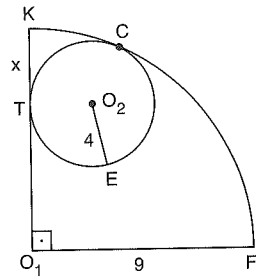
The radii of the circles with the centers O_1 and O_2 are r_1 and r_2 respectively.

$|O_1E| = 4$ br

$\Rightarrow r_2 = ?$

A) 2 B) $2\sqrt{3}$ C) 4 D) $4\sqrt{3}$ E) 8

11.



O_1 ve O_2 merkezli çemberler

Circles with the centers O_1 and O_2

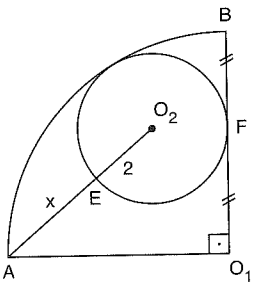
$|O_2E| = 4$ br

$|O_1F| = 9$ br

$\Rightarrow |TK| = x = ?$

A) 2 B) 4 C) 6 D) 7 E) 8

12.



O_1 ve O_2 merkezli çemberler

Circles with the centers O_1 and O_2

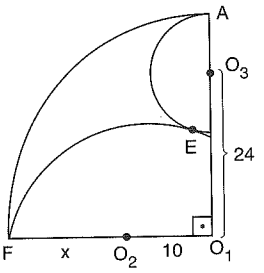
$|BF| = |FO_1|$

$|O_2E| = 2$ br

$\Rightarrow |EA| = x = ?$

A) $\frac{2\sqrt{41}}{3} - 2$ B) $2\sqrt{41} - 4$ C) $\sqrt{41} - 4$ D) 4 E) 8

13.



O_1, O_2, O_3 merkezli çemberler

Circles with the centers O_1, O_2 and O_3

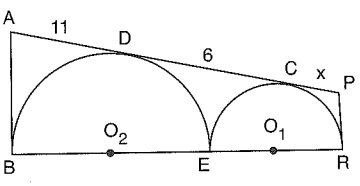
$|O_1O_3| = 24$ br

$|O_1O_2| = 10$ br

$\Rightarrow |O_2F| = x = ?$

A) 6 B) 10 C) 14 D) 16 E) 20

14.



O_1 ve O_2 merkezli çemberler

Circles with O_1 and O_2 center points

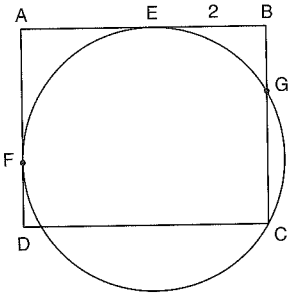
$|AD| = 11$ br

$|DC| = 6$ br

$\Rightarrow |CP| = x = ?$

A) $\frac{9}{11}$ B) $\frac{8}{11}$ C) $\frac{8}{19}$ D) $\frac{6}{11}$ E) $\frac{9}{19}$

15.



ABCD dikdörtgen

ABCD rectangle

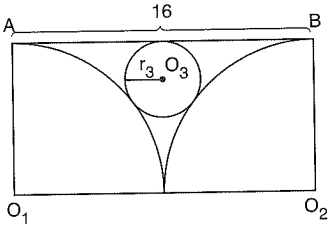
$|BC| = 4$ br

$|EB| = 2$ br

$\Rightarrow A(ABCD) = ?$

A) 36 B) 24 C) 18 D) 9 E) 4,5

16.



O_1, O_2 ve O_3 merkezli çemberler

Circles with the centers O_1, O_2 and O_3

ABO_2O_1 dikdörtgen

ABO_2O_1 rectangle

$|AB| = 16$ br

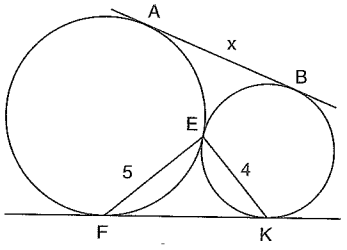
$\Rightarrow r_3 = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

PUZA YAYINLARI

www.ztcprep.com

1.



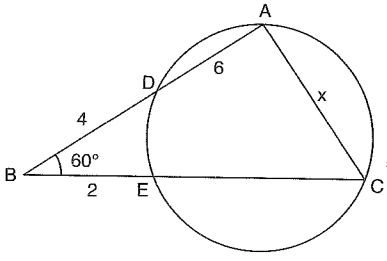
$|EF| = 5$ br

$|EK| = 4$ br

$\Rightarrow |AB| = x = ?$

A) 1 B) 3 C) 5 D) $\sqrt{41}$ E) 9

2.



$m(\widehat{ABC}) = 60°$

$|AD| = 6$ br

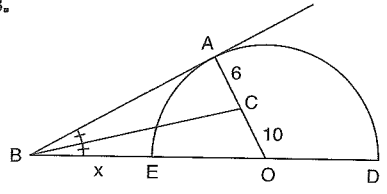
$|BD| = 4$ br

$|BE| = 2$ br

$\Rightarrow |AC| = x = ?$

A) 10 B) $10\sqrt{3}$ C) $10\sqrt{2}$ D) 20 E) $20\sqrt{3}$

3.



O merkezli yarım çember

Semi circle with a center O

$m(\widehat{ABC}) = m(\widehat{CBD})$

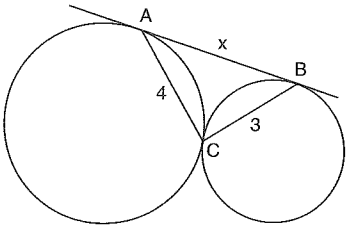
$|AC| = 6$ br

$|CO| = 10$ br

$\Rightarrow |BE| = x = ?$

A) 2 B) 4 C) 6 D) 8 E) 10

4.



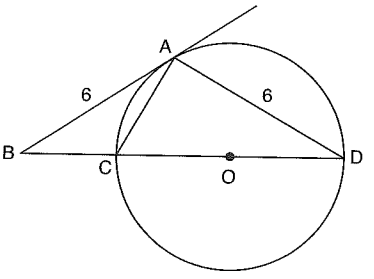
$|AC| = 4$ br

$|BC| = 3$ br

$\Rightarrow |AB| = x = ?$

A) 2 B) $2\sqrt{2}$ C) 3 D) $3\sqrt{2}$ E) 5

5.



O merkezli çemberin yarıçapı r

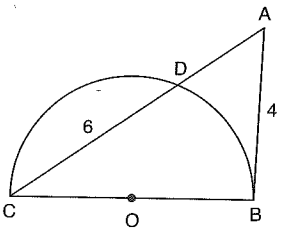
Radius r of a circle with a center O

$|AB| = |AD| = 6$ br

$\Rightarrow r = ?$

A) 2 B) $2\sqrt{3}$ C) 3 D) 6 E) $4\sqrt{3}$

6.



O merkezli yarım çemberin yarıçapı r

Radius r of a semi circle with a center O

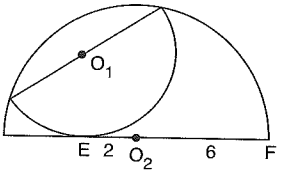
$|CD| = 6$ br

$|AB| = 4$ br

$\Rightarrow r = ?$

A) $\sqrt{3}$ B) $2\sqrt{3}$ C) 4 D) 6 E) $6\sqrt{3}$

7.



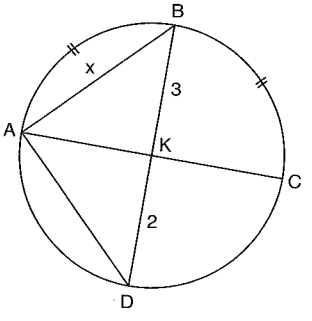
O_1 ve O_2 merkezli çemberlerin yarıçapları sırasıyla r_1 ve r_2'dir.

The radii of the circles with the centers O_1 and O_2 are r_1 and r_2 respectively.

$|O_2F| = 6$ br $|EO_2| = 2$ br $\Rightarrow r_1 = ?$

A) 3 B) 4 C) $2\sqrt{5}$ D) $3\sqrt{3}$ E) $4\sqrt{3}$

8.



$m(\widehat{AB}) = m(\widehat{BC})$

$|BK| = 3$ br

$|KD| = 2$ br

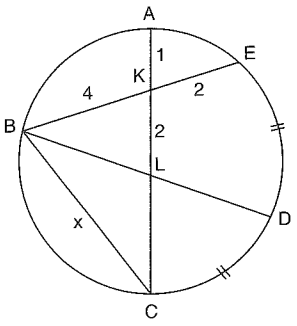
$\Rightarrow |AB| = x = ?$

A) $\frac{3\sqrt{15}}{2}$ B) $\sqrt{15}$ C) 3 D) $\sqrt{6}$ E) $\frac{\sqrt{6}}{2}$

PUZA YAYINLARI

www.ztcprep.com

9.



$m(\widehat{ED}) = m(\widehat{DC})$

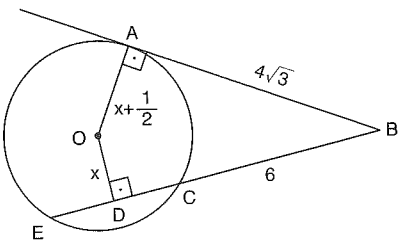
$2|AK| = |KL| = |KE| = 2$ br

$|BK| = 4$ br

$\Rightarrow |BC| = x = ?$

A) 12 B) 10 C) 8 D) 6 E) 4

10.



O merkezli çember

Circle with a center O

$|AB| = 4\sqrt{3}$ br

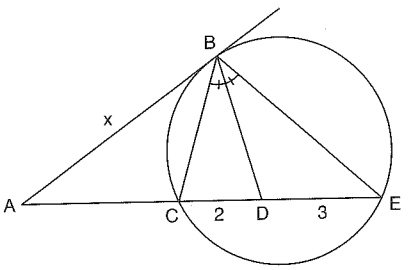
$|BC| = 6$ br

$|AO| = x + \frac{1}{2}$

$\Rightarrow |OD| = x = ?$

A) $\frac{3}{4}$ B) 2 C) $\frac{5}{2}$ D) 3 E) $\frac{7}{2}$

11.

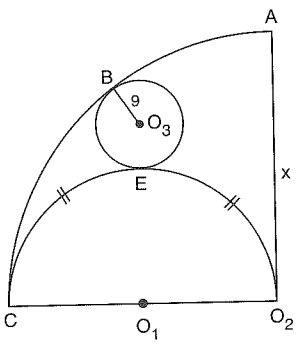


$m(\widehat{CBD}) = m(\widehat{DBE})$ $|CD| = 2$ br $|DE| = 3$ br

$\Rightarrow |AB| = x = ?$

A) $\frac{5}{3}$ B) $\frac{5}{2}$ C) $\frac{10}{3}$ D) $4\sqrt{2}$ E) 6

12.



O_1, O_2, O_3 merkezli çemberler

Circles with the centers O_1, O_2 and O_3

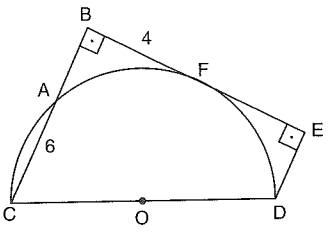
$|O_3B| = 9$ br

$m(\widehat{CE}) = m(\widehat{EO_2})$

$\Rightarrow |AO_2| = x = ?$

A) 12 B) 15 C) 24 D) 27 E) 54

13.



O merkezli yarım çember

Semi circle with a center O

$[CB] \perp [BE]$

$[BE] \perp [ED]$

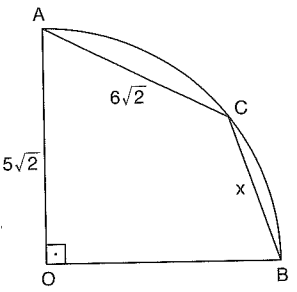
$|AC| = 6$ br

$|BF| = 4$ br

$\Rightarrow A(BCDE) = ?$

A) 64 B) 48 C) 40 D) 38 E) 36

14.



O merkezli çeyrek çember

A quarter circle with a center O

$[AO] \perp [BO]$

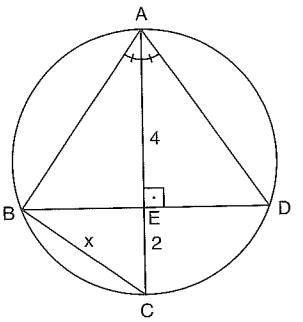
$|AC| = 6\sqrt{2}$ br

$|AO| = 5\sqrt{2}$ br

$\Rightarrow |BC| = x = ?$

A) 1 B) 2 C) $2\sqrt{2}$ D) 4 E) $4\sqrt{2}$

15.



$m(\widehat{BAC}) = m(\widehat{CAD})$

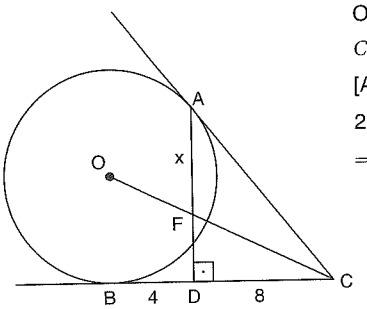
$[AC] \perp [BD]$

$|AE| = 2|EC| = 4$ br

$\Rightarrow |BC| = x = ?$

A) 6 B) 4 C) $2\sqrt{3}$ D) $2\sqrt{2}$ E) 2

16.



O merkezli çember

Circle with a center O

$[AD] \perp [BC]$

$2|BD| = |DC| = 8$ br

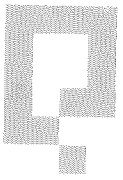
$\Rightarrow |AF| = x = ?$

A) $12\sqrt{5}$ B) $8\sqrt{5}$ C) $4\sqrt{5}$ D) $\frac{12\sqrt{5}}{5}$ E) $\sqrt{5}$

PUZA YAYINLARI

www.ztcprep.com

ZTC زنگنه مجموعه موسسات



ÇEMBERDE UZUNLUK LENGTH IN CIRCLE

Yanıt Anahtarı Answer Key

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	E	D	E	B	A	C	C	D	A	D	D	C	B	C	B

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	A	B	A	C	A	E	B	E	C	B	A	C	B	D	B

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	E	A	B	E	B	B	C	D	A	A	E	B	D	D	C

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	C	B	C	C	D	E	B	B	B	D	A	D	B	C	C

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	D	D	C	C	C	D	A	A	C	B	E	B	B	E	C

TEST 6

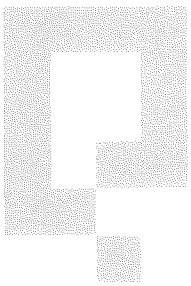
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	B	A	E	B	B	C	C	C	C	A	E	A	C	B

TEST 7

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	B	B	E	B	B	B	B	A	A	E	E	C	B	C	D

www.ztcprep.com

زنگنه ZTC
مجموعه موسسات

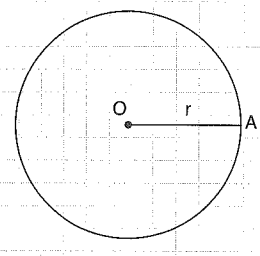


DAİREDE ALAN
AREA IN CIRCULAR REGION

www.ztcprep.com

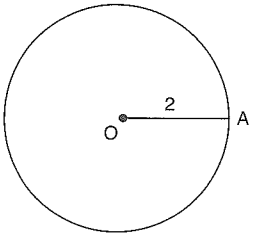
ZTC زنگنه مجموعه موسسات Özellikler

ÖZELLİK|Property 1



Çemberin Çevresi = $2\pi r$
Circumference of a circle = $2\pi r$

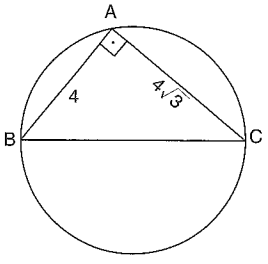
1.



⇒ O merkezli çemberin çevresi = ?
Circumference of a circle with a center O = ?

4π

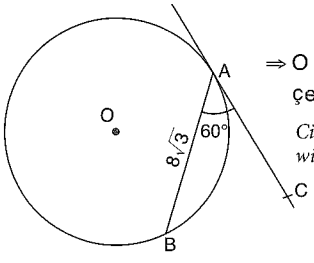
2.



⇒ Çemberin Çevresi = ?
Circumference of a circle = ?

8π

3.

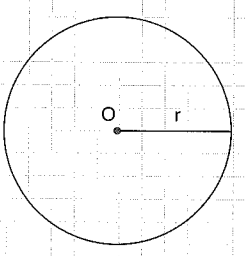


⇒ O merkezli çemberin çevresi = ?
Circumference of a circle with a center O = ?

16π

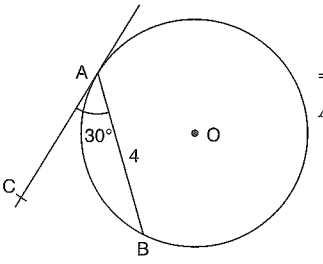
PUZA YAYINLARI

ÖZELLİK|Property 2



Dairenin Alanı = πr^2
Area of a circular region = πr^2

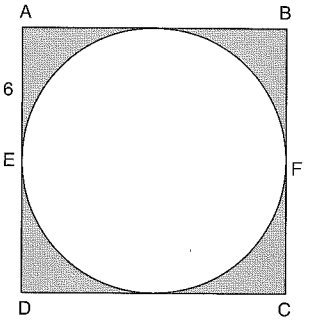
1.



⇒ Dairenin Alanı = ?
Area of a circular region = ?

16π

2.

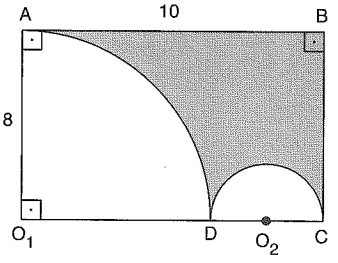


ABCD kare
ABCD square

⇒ Taralı Alan = ?
Shaded area = ?

$144 - 36\pi$

3.



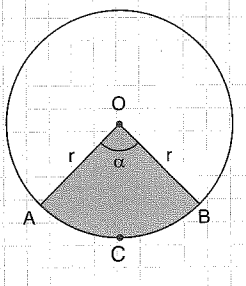
⇒ Taralı Alan = ?
Shaded area = ?

$80 - \frac{33}{2}\pi$

PUZA YAYINLARI

www.ztcprep.com

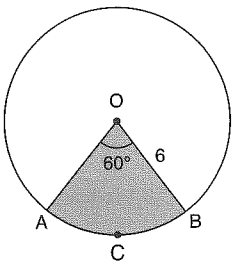
ÖZELLİK | Property 3



Taralı Alan $= \pi r^2 \cdot \dfrac{\alpha}{360°}$
Shaded area

$|\overset{\frown}{ACB}| = 2\pi r \cdot \dfrac{\alpha}{360°}$

1.



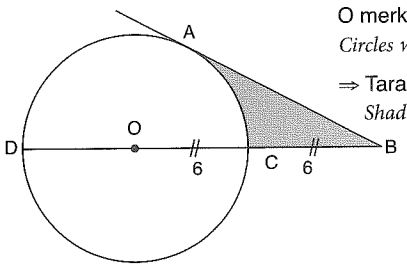
O merkezli çember
Circles with a center O

⇒ Taralı Alan = ?
Shaded area = ?

⇒ $|\overset{\frown}{ACB}| = ?$

$6\pi,\ 2\pi$

2.

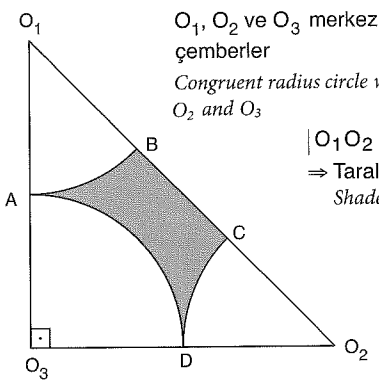


O merkezli çember
Circles with a center O

⇒ Taralı Alan = ?
Shaded area = ?

$18\sqrt{3} - 6\pi$

3.



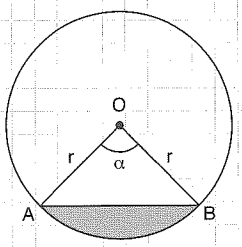
O_1, O_2 ve O_3 merkezli eşit yarıçaplı çemberler
Congruent radius circle with centers of O_1, O_2 and O_3

$|O_1O_2| = 8\sqrt{2}$ br

⇒ Taralı Alan = ?
Shaded area = ?

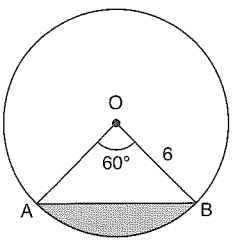
$32 - 8\pi$

ÖZELLİK | Property 4



Taralı Alan $= \pi r^2 \dfrac{\alpha}{360} - \dfrac{1}{2} \cdot r^2 \cdot \sin\alpha$
Shaded area

1.

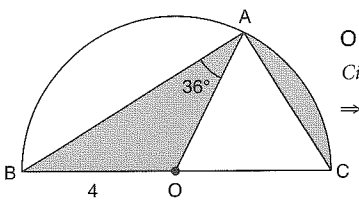


O merkezli çember
Circles with a center O

⇒ Taralı Alan = ?
Shaded area = ?

$6\pi - 9\sqrt{3}$

2.

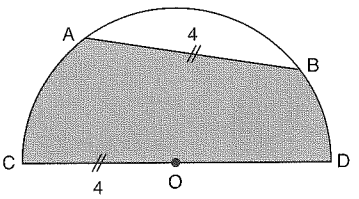


O merkezli çember
Circles with a center O

⇒ Taralı Alan = ?
Shaded area = ?

$\dfrac{16}{5}\pi$

3.



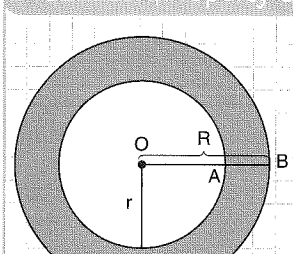
O merkezli çember
Circles with a center O

⇒ Taralı Alan = ?
Shaded area = ?

$\dfrac{16\pi}{3} + 4\sqrt{3}$

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

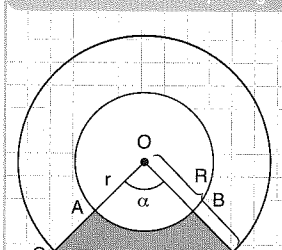
ÖZELLİK | Property 5



O merkezli çember
Circle with a center O

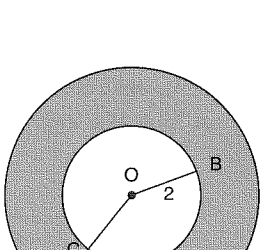
Taralı Alan = $\pi(R^2 - r^2)$
Shaded area

ÖZELLİK | Property 6



Taralı Alan = $\pi(R^2-r^2)\frac{\alpha}{360°}$
Shaded area

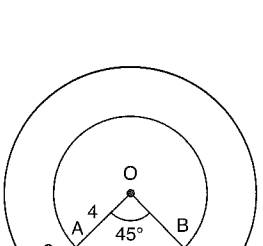
1.



O merkezli çember
Circle with a center O
⇒ Taralı Alan = ?
Shaded area = ?

12π

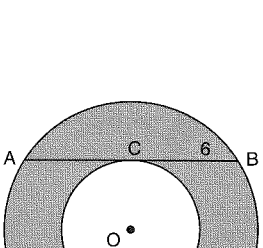
1.



⇒ Taralı Alan = ?
Shaded area = ?

$\frac{5\pi}{2}$

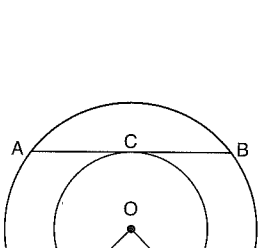
2.



O merkezli çember
Circle with a center O
⇒ Taralı Alan = ?
Shaded area = ?

36π

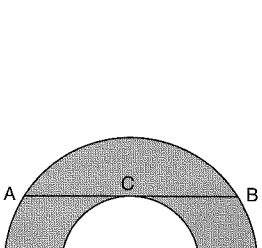
2.



$|AB| = 12$ br
⇒ Taralı Alan = ?
Shaded area = ?

3π

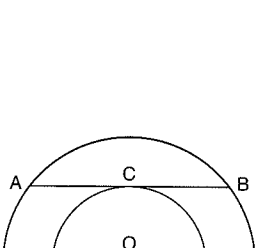
3.



O merkezli çember
Circle with a center O
Taralı Alan 72π br^2
Shaded area 72π *br*^{2}
⇒ $|ABI| = ?$

$12\sqrt{2}$

3.

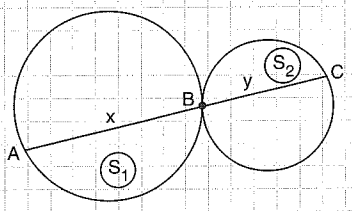


Taralı Alan 45π br^2
Shaded area 45π *br*^{2}
⇒ $|ABI| = ?$

$12\sqrt{5}$

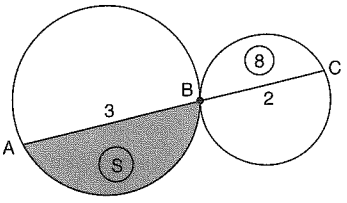
PUZA YAYINLARI

ÖZELLİK | Property 7



$$\left(\frac{x}{y}\right)^2 = \frac{S_1}{S_2}$$

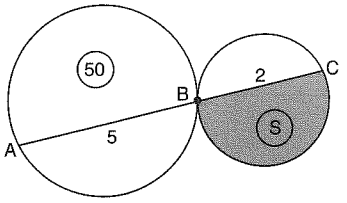
1.



$\Rightarrow S = ?$

18

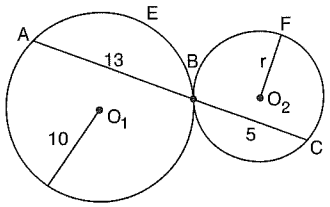
2.



$\Rightarrow S = ?$

8

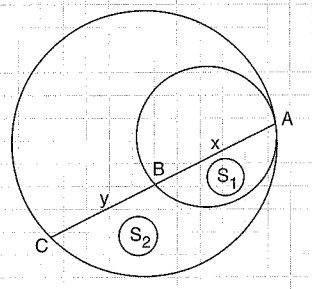
3.



$\Rightarrow r = ?$

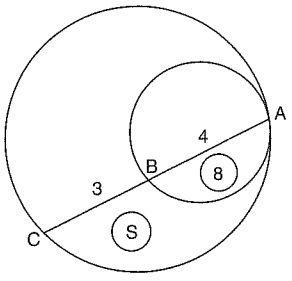
$\frac{50}{13}$

ÖZELLİK | Property 8



$$\left(\frac{x}{x+y}\right)^2 = \frac{S_1}{S_1+S_2}$$

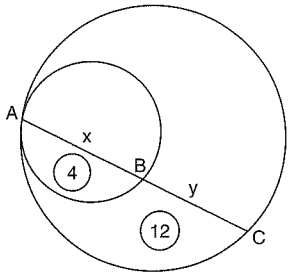
1.



$\Rightarrow S = ?$

$\frac{33}{2}$

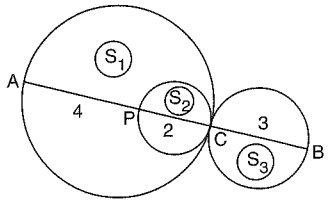
2.



$\Rightarrow \frac{x}{y} = ?$

1

3.

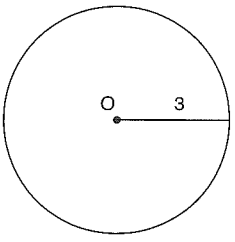


$\Rightarrow \frac{S_1+S_3}{S_2} = ?$

$\frac{41}{4}$

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

1.

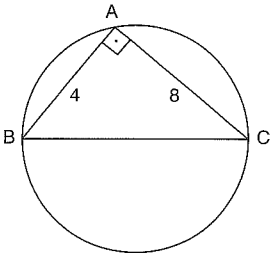


O merkezli yarıçapı 3 br olan dairenin alanı kaç br²'dir?

How many unit² is the area of the circle with a center of O, having an radius of 3 units?

A) 3π B) 6π C) 9π D) 12π E) 15π

2.



[BA] ⊥ [AC]

|AB| = 4 br

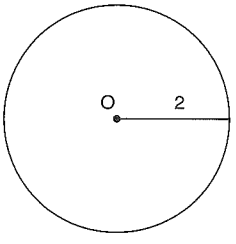
|AC| = 8 br

Şekildeki dairenin alanı kaç br²'dir?

How many unit² is the area of the circle in the figure?

A) 10π B) 12π C) 15π D) 20π E) 25π

3.

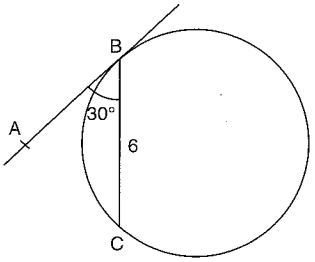


O merkezli yarıçapı 2 br olan çemberin çevresi kaç br'dir?

How many unit is the circumference of the circle with a center O, having an radius of 2 units?

A) 2π B) 4π C) 6π D) 8π E) 10π

4.



m(ABC) = 30°

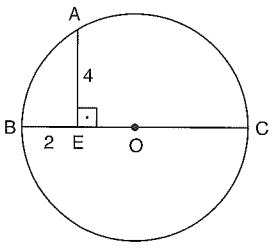
|BC| = 6 br

Şekildeki çemberin çevresi kaç br'dir?

How many unit is the circumference of the circle in figure?

A) 3π B) 6π C) 8π D) 12π E) 16π

5.



[AE] ⊥ [BC]

|AE| = 4 br

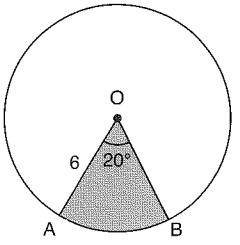
|BE| = 2 br

O merkezli çemberin çevresi kaç br'dir?

How many unit is the circumference of the O circle?

A) 6π B) 8π C) 10π D) 12π E) 14π

6.



O merkezli çember

Circle with a center O

m(AOB) = 20°

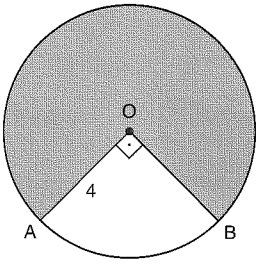
|OA| = 6 br

Şekildeki taralı daire diliminin alanı kaç br²'dir?

How many unit² is the shaded slice of the circle in the figure?

A) π B) 2π C) 4π D) 5π E) 6π

7.



O merkezli çember

Circle with a center O

[AO] ⊥ [OB]

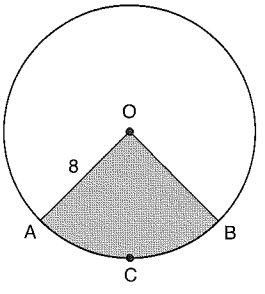
|AO| = 4 br

Şekildeki taralı daire diliminin alanı kaç br²'dir?

How many unit² is the shaded slice of the circle in the figure?

A) 2π B) 4π C) 8π D) 12π E) 16π

8.



O merkezli çemberin yarıçapı 8 br

A circle with a center O, has a radius of 8 units:

|ACB| = 2π

Şekildeki taralı daire diliminin alanı kaç br²'dir?

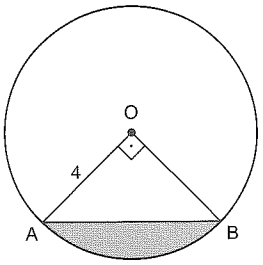
How many unit² is the shaded slice of the circle in figure?

A) 4π B) 6π C) 8π D) 12π E) 14π

PUZA YAYINLARI

www.ztcprep.com

9.



O merkezli çemberin yarıçapı 4 br

A circle with a center O, has a radius of 4 units

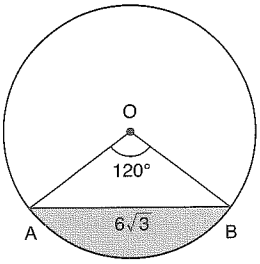
$[AO] \perp [OB]$

Taralı bölgenin alanı kaç br^2'dir?

How many unit² is the area of the shaded sector?

A) $4\pi - 8$ B) $4\pi - 4$ C) $4\pi + 4$ D) 8π E) 12π

10.



O merkezli çember

Circle with a center O

$m(\widehat{AOB}) = 120°$

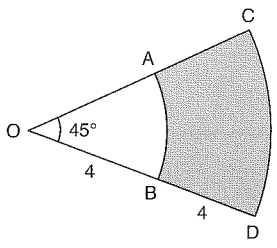
$|AB| = 6\sqrt{3}$ br

Taralı bölgenin alanı kaç br^2'dir?

How many unit² is the area of the shaded sector?

A) $6\pi - 9\sqrt{3}$ B) $12\pi - 9\sqrt{3}$ C) $6\pi + 3\sqrt{3}$ D) 9π E) 12π

11.



O merkezli çember yayları

Arc of circumference with a center O

$m(\widehat{COD}) = 45°$

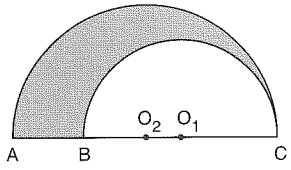
$|OB| = |BD| = 4$ br

Taralı bölgenin alanı kaç br^2'dir?

How many unit² is the area of the shaded sector?

A) 4π B) 6π C) 8π D) 10π E) 12π

12.



O_1 ve O_2 merkezli yarım çemberler

Semi-circles with O_1 and O_2 center points

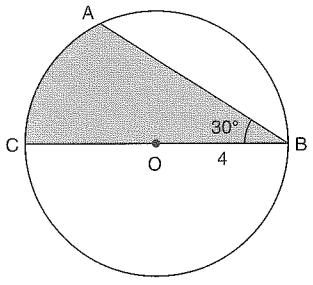
$2|AB| = |BC| = 8$ br

Taralı bölgenin alanı kaç br^2'dir?

How many unit² is the area of the shaded sector?

A) 5π B) 8π C) 10π D) 16π E) 20π

13.



O merkezli çemberin yarıçapı 4 br

A circle with a center O, has a radius of 4 units

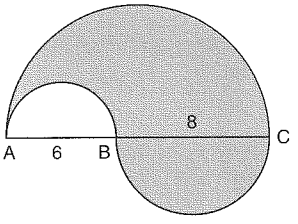
$m(\widehat{ABC}) = 30°$

Taralı bölgenin alanı kaç br^2'dir?

How many unit² is the area of the shaded sector?

A) $8\pi - 4\sqrt{3}$ B) $\frac{40\pi}{3} - 4\sqrt{3}$ C) $\frac{40\pi}{3} + 2\sqrt{3}$ D) $16\pi - 2\sqrt{3}$ E) $\frac{8\pi}{3} + 4\sqrt{3}$

14.



Şekildeki gibi üç yarım daire iç içedir.

Three semi-circles are nested as in figure

$|AB| = 6$ br

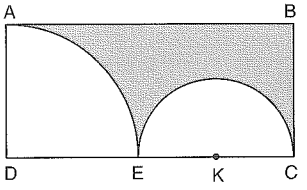
$|BC| = 8$ br

Taralı bölgenin alanı kaç br^2'dir?

How many unit² is the area of the shaded sector?

A) 12π B) 16π C) 18π D) 20π E) 28π

15.



ABCD dikdörtgen, D ve K merkezli çemberler

A rectangle of ABCD, circles with the centers of D and K

$|DE| = 4$ br

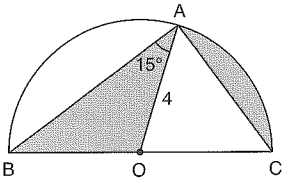
$|EC| = 6$ br

Taralı bölgenin alanı kaç br^2'dir?

How many unit² is the area of the shaded sector?

A) $24 - 7\pi$ B) $40 - \frac{17\pi}{2}$ C) $20 - 4\pi$ D) $40 - 4\pi$ E) $20 + 4\pi$

16.



O merkezli yarım çember

Semi-circle with a center O

$|AO| = 4$ br

$m(\widehat{BAO}) = 15°$

Taralı bölgenin alanı kaç br^2'dir?

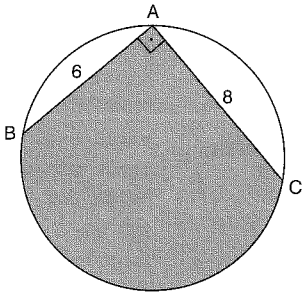
How many unit² is the area of the shaded sector?

A) π B) $\frac{4}{3}\pi$ C) $\frac{3\pi}{2}$ D) 2π E) $\frac{7\pi}{3}$

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

www.ztcprep.com

1.



[BA] ⊥ [AC]

|AB| = 6 br

|AC| = 8 br

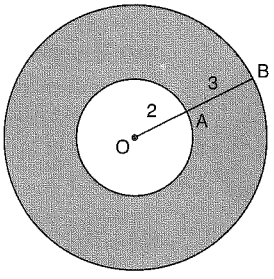
Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) 10 B) 24 C) 25π

D) $\frac{25\pi}{2} + 24$ E) $25\pi + 24$

2.



O merkezli çemberler

Circles with a center O

|OA| = 2 br

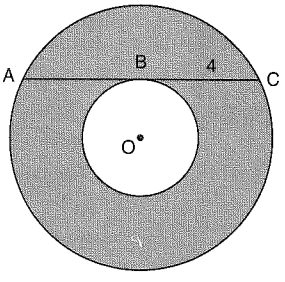
|AB| = 3 br

Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) π B) 4π C) 9π D) 21π E) 25π

3.



O merkezli çemberler

Circles with a center O

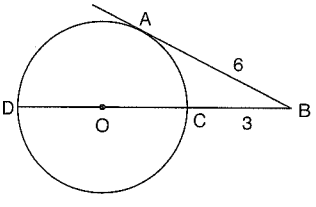
|BC| = 4 br

Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) 4π B) 8π C) 16π D) 32π E) 64π

4.



O merkezli çember

Circles with a center O

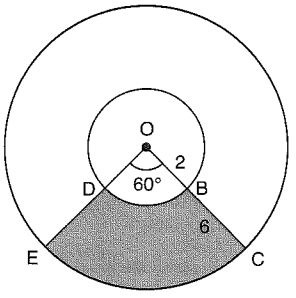
|AB| = 2|BC| = 6 br

Çemberin çevresi kaç br'dir?

How many unit is the circumference of the circle?

A) 144π B) 81π C) 36π D) $\frac{81\pi}{4}$ E) 9π

5.



O merkezli çemberler

Circles with a center O

3|OB| = |BC| = 6 br

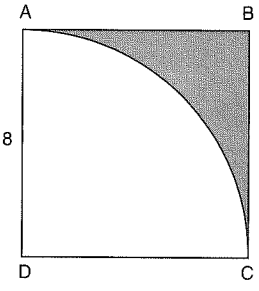
$m(\widehat{EOC}) = 60°$

Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) 10π B) $\frac{17\pi}{2}$ C) 8π D) $\frac{15\pi}{2}$ E) 6π

6.



D merkezli çeyrek çember

A quarter circle with a center D

ABCD kare

ABCD square

|AD| = 8 br

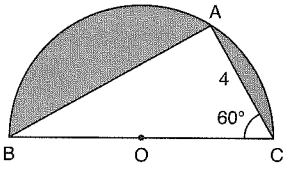
Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) $64 - 16\pi$ B) $16\pi - 32$ C) $32 - 8\pi$

D) $16\pi + 64$ E) $64\pi + 16$

7.



O merkezli yarım çember

Semi-circle with a center O

$m(\widehat{ACB}) = 60°$

|AC| = 4 br

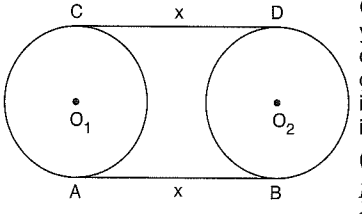
Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) $8\pi - 8\sqrt{3}$ B) $8\pi - 4\sqrt{3}$ C) 4π

D) $4\pi + 4$ E) 8π

8.



O_1 ve O_2 merkezli yarıçapları 3 br olan çemberlerin çevresine gerilmiş ipin uzunluğu 30 br ise x kaç br'dir?

($\pi = 3$)

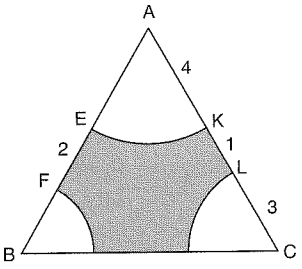
If the length of a thread which is surrounded on circles with a radius of 3 units, having centers of O_1, O_2 is 30 units, then how many unit is x?

A) 4 B) 5 C) 6 D) 7 E) 8

PUZA YAYINLARI

www.ztcprep.com

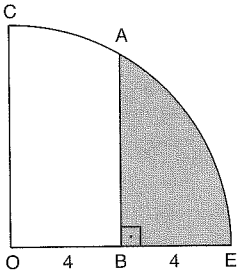
9.



ABC eşkenar üçgen
ABC equilateral triangle
A, B, C merkezli daire dilimleri
Slices of circle with the centers of A, B, C.
Taralı bölgenin alanı kaç br²'dir?
How many unit² is the area of the shaded sector?

A) $16\sqrt{3}-\frac{29\pi}{6}$ B) $8\sqrt{3}-4\pi$ C) $16\sqrt{3}-\frac{21\pi}{2}$
D) $2\sqrt{3}$ E) $16\sqrt{3}$

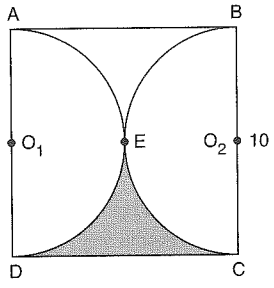
10.



O merkezli çeyrek çember
A quarter circle with a center O
[AB] ⊥ [OE]
|OB| = |BE| = 4 br
Taralı bölgenin alanı kaç br²'dir?
How many unit² is the area of the shaded sector?

A) $\frac{7\pi}{3}-8$ B) $\frac{4\pi}{3}-4$ C) $\frac{4\pi}{3}+8\sqrt{3}$
D) $\frac{8\pi}{3}+8$ E) $\frac{32\pi}{3}-8\sqrt{3}$

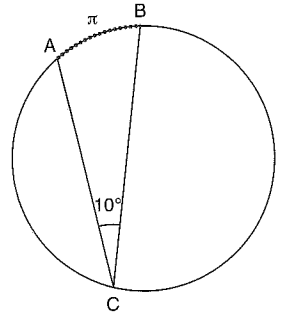
11.



O_1 ve O_2 merkezli yarım çemberler
Semi-circles with O_1 and O_2 center points
ABCD kare
ABCD square
|BC| = 10 br
Taralı bölgenin alanı kaç br²'dir?
How many unit² is the area of the shaded sector?

A) 100 B) $50-5\pi$ C) 25π
D) $100-25\pi$ E) $50-\frac{25\pi}{2}$

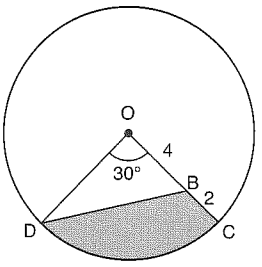
12.



$|\widehat{AB}| = \pi$
$m(\widehat{ACB}) = 10°$
Şekildeki dairenin alanı kaç br²'dir?
How many unit² is the area of the circle in the figure?

A) 3 B) 9π C) 9 D) 36π E) 81π

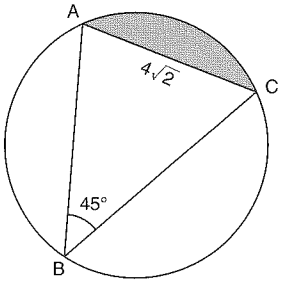
13.



O merkezli çember
Circles with a center O
|OB| = 2|BC| = 4 br
$m(\widehat{DOC}) = 30°$
Taralı bölgenin alanı kaç br²'dir?
How many unit² is the area of the shaded sector?

A) $3\pi-6$ B) $3\pi-2$ C) $6\pi-2$ D) 3π E) 6π

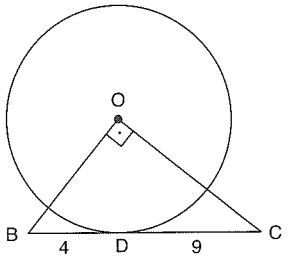
14.



$m(\widehat{ABC}) = 45°$
$|AC| = 4\sqrt{2}$ br
Taralı bölgenin alanı kaç br²'dir?
How many unit² is the area of the shaded sector?

A) $4\pi-8$ B) $4\pi-4$ C) $2\pi+4$
D) $4\pi+4$ E) $8\pi-4$

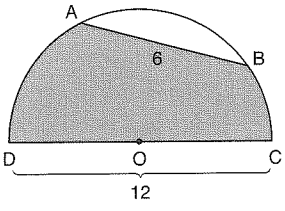
15.



O merkezli çember
Circles with a center O
[BO] ⊥ [OC]
|BD| = 4 br
|DC| = 9 br
Şekildeki dairenin alanı kaç br²'dir?
How many unit² is the area of the circle in figure?

A) 12π B) 16π C) 20π D) 25π E) 36π

16.



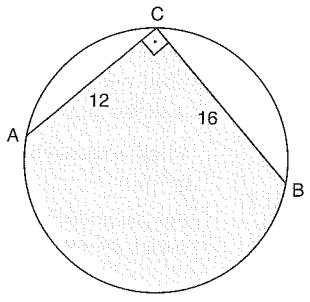
O merkezli yarım çember
Semi-circle with a center O
|AB| = 6 br
|DC| = 12 br
Taralı bölgenin alanı kaç br²'dir?
How many unit² is the area of the shaded sector?

A) $6\pi-9\sqrt{3}$ B) $4\pi+9\sqrt{3}$ C) $6\pi+4\sqrt{3}$
D) $12\pi-9\sqrt{3}$ E) $12\pi+9\sqrt{3}$

PUZA YAYINLARI

www.ztcprep.com

1.



[AC] ⊥ [CB]

|AC| = 12 br

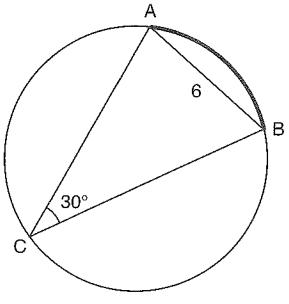
|BC| = 16 br

⇒ Taralı Alan = ?

A) $40\pi + 90$ B) $40\pi + 96$ C) $20\pi - 96$

D) $50\pi + 96$ E) $28\pi - 80$

2.



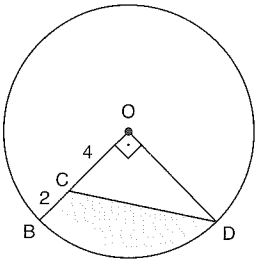
|AB| = 6 br

$m(\widehat{ACB}) = 30°$

$\Rightarrow |\widehat{AB}| = ?$

A) π B) 2π C) $\frac{5\pi}{2}$ D) 4π E) 5π

3.



O merkezli çember

Circle with a center O

|OC| = 4 br

|BC| = 2 br

[BO] ⊥ [OD]

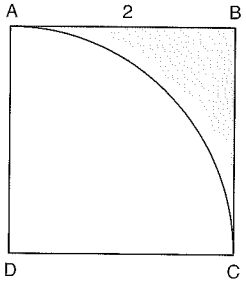
⇒ Taralı Alan = ?

Shaded Area = ?

A) $6\pi + 6$ B) $9\pi + 12$ C) $9\pi - 12$

D) $8\pi - 12$ E) $6\pi - 6$

4.



ABCD kare

ABCD square

D merkezli çeyrek çember

A quarter circle with a center D

|AB| = 2 br

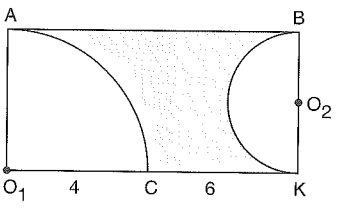
⇒ Taralı Alan = ?

Shaded Area = ?

A) $2 - \pi$ B) $2 + \pi$ C) $\pi - 2$

D) $4 - \pi$ E) $4 + \pi$

5.



$ABKO_1$ dikdörtgen

$ABKO_1$ rectangle

O_1 ve O_2 merkezli çemberler

Circles with O_1 and O_2 center points

$|O_1C| = 4$ br

|CK| = 6 br

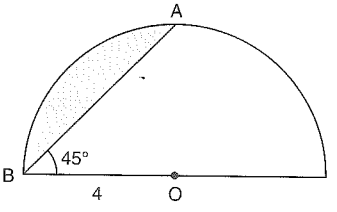
⇒ Taralı Alan = ?

Shaded Area = ?

A) $40 - 6\pi$ B) $20 - 4\pi$ C) $40 - 5\pi$

D) $20 + 4\pi$ E) $80 - 6\pi$

6.



O merkezli yarım çember

A semi circle with a center O

$m(\widehat{ABC}) = 45°$

|OB| = 4 br

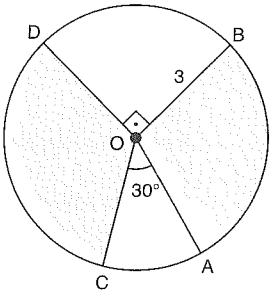
⇒ Taralı Alan = ?

Shaded Area = ?

A) $2\pi + 4$ B) $2\pi - 4$ C) $4\pi + 4$

D) $4\pi - 4$ E) $4\pi - 8$

7.



O merkezli çember

A circle with a center O

$m(\widehat{COA}) = 30°$

[DO] ⊥ [OB]

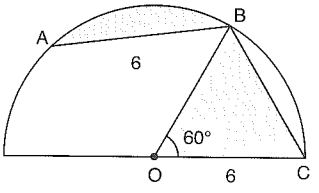
|OB| = 3 br

⇒ Taralı Alan = ?

Shaded Area = ?

A) 2π B) 4π C) 6π D) 8π E) 16π

8.



O merkezli yarım çember

A semi circle with a center O

$|AB| = |OC| = 6$ br

$m(\widehat{BOC}) = 60°$

⇒ Taralı Alan = ?

Shaded Area = ?

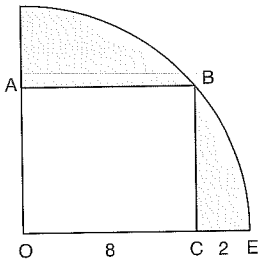
A) π B) 2π C) $6\pi - 6\sqrt{3}$

D) 6π E) $6\pi + 6\sqrt{3}$

PUZA YAYINLARI

www.ztcprep.com

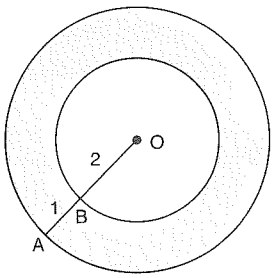
9.



ABCO dikdörtgen
ABCO rectangle
O merkezli çeyrek çember
A quarter circle with a center O
$|OC| = 8$ br
$|CE| = 12$ br
$\Rightarrow$ Taralı Alan = ?

A) $25\pi - 48$ B) $50\pi - 24$ C) $50\pi + 24$
D) $25\pi - 12$ E) $25\pi + 12$

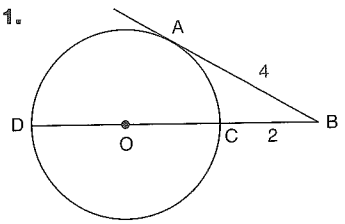
10.



O merkezli çemberler
Circles with a center O
$|AB| = 1$ br
$|BO| = 2$ br
$\Rightarrow$ Taralı Alan = ?
Shaded Area = ?

A) 2π B) 3π C) 4π D) 5π E) 6π

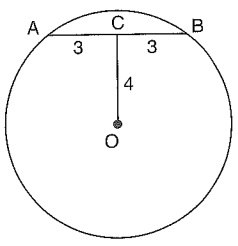
11.



$|AB| = 4$ br
$|CB| = 2$ br
$\Rightarrow$ O merkezli dairenin alanı = ?
Area of a circular region with a center O = ?

A) π B) 4π C) 9π D) 16π E) 25π

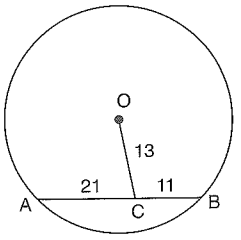
12.



$|AC| = |CB| = 3$ br
$|CO| = 4$ br
$\Rightarrow$ O merkezli dairenin alanı = ?
Area of a circular region with a center O = ?

A) π B) 4π C) 9π D) 16π E) 25π

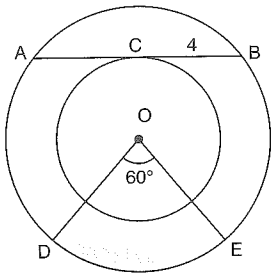
13.



$|OC| = 13$ br
$|AC| = 21$ br
$|CB| = 11$ br
$\Rightarrow$ O merkezli dairenin alanı = ?
Area of a circular region with a center O = ?

A) 36π B) 64π C) 100π D) 164π E) 400π

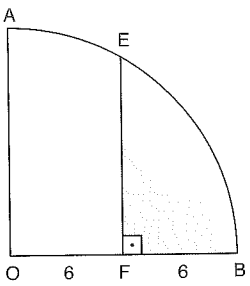
14.



O merkezli çemberler
Circles with a center O
$|CB| = 4$ br
$m(\widehat{DOE}) = 60°$
$\Rightarrow$ Taralı Alan = ?
Shaded Area = ?

A) $\frac{\pi}{3}$ B) 2π C) $\frac{8\pi}{3}$ D) 4π E) 5π

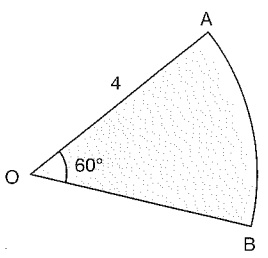
15.



O merkezli çeyrek çember
A quarter circle with a center O
$|OF| = |BF| = 6$ br
$[EF] \perp [OB]$
$\Rightarrow$ Taralı Alan = ?
Shaded Area = ?

A) $24\pi - \sqrt{3}$ B) $24\pi - 18\sqrt{3}$ C) $12\pi - 18\sqrt{3}$
D) $12\pi - 9\sqrt{3}$ E) $36\pi - 18\sqrt{3}$

16.



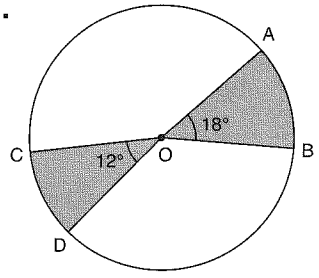
O merkezli çember
Circle with a center O
$|OA| = 4$ br
$m(\widehat{AOB}) = 60°$
$\Rightarrow$ Taralı Alan = ?
Shaded Area = ?

A) 2π B) 3π C) $\frac{8\pi}{3}$ D) $\frac{15\pi}{2}$ E) 10π

PUZA YAYINLARI

www.ztcprep.com

1.



O merkezli çemberin yarıçapı 6 br

A circle with a center O, has a radius of 6 units

$m(\widehat{AOB}) = 18°$

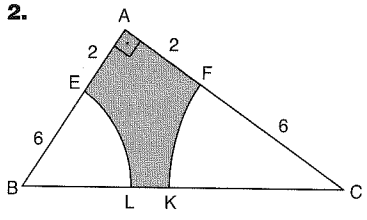
$m(\widehat{COD}) = 12°$

Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) π B) 2π C) 3π D) 4π E) 6π

2.



B ve C merkezli çember dilimleri

Slice of circle with the centers of B and C

$|FC| = |EB| = 6$ br

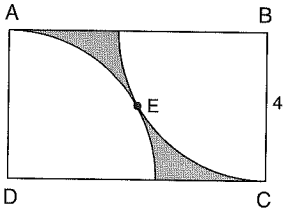
$|AE| = |AF| = 2$ br

Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) 23π B) 16π C) $32 - 9\pi$ D) $9\pi - 16$ E) $16\pi - 32$

3.



ABCD dikdörtgen

ABCD rectangle

B ve D çeyrek çemberler

Quarter circles with centers B and D

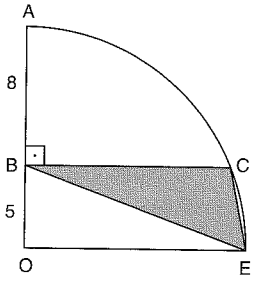
$|BC| = 4$ br

Taralı bölgenin alanı kaç br² dir?

How many unit² is the area of the shaded sector?

A) $8\pi - 16\sqrt{3}$ B) $8\pi - 8\sqrt{3}$ C) $8\sqrt{3} - 4\pi$ D) $16\pi - 16\sqrt{3}$ E) $16\sqrt{3} - 8\pi$

4.



O merkezli çeyrek çember

A quarter circle with a center O

$[AB] \perp [BC]$

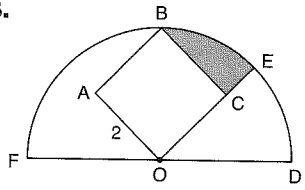
$|AB| = 8$ br

$|BO| = 5$ br

$\Rightarrow A(BCE) = ?$

A) 12 B) 15 C) 20 D) 24 E) 30

5.



O merkezli yarım çember

Semi-circle with a center O

ABCO kare

ABCD square

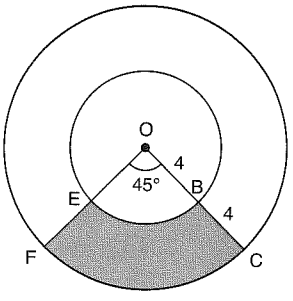
$|AO| = 2$ br

Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) $\pi - 2$ B) π C) $\pi + 2$ D) $2\pi - 2$ E) 2π

6.



O merkezli çemberler

Circles with a center O

$m(\widehat{FOC}) = 45°$

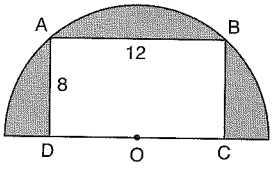
$|OB| = |BC| = 4$ br

Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) 4π B) 5π C) 6π D) 8π E) 10π

7.



O merkezli yarım çember

Semi-circle with a center O

ABCD dikdörtgen

ABCD rectangle

$|AB| = 12$ br

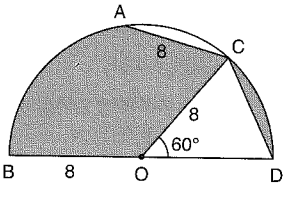
$|AD| = 8$ br

Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) $50\pi + 96$ B) $25\pi + 96$ C) $100\pi - 96$ D) $25\pi - 16$ E) $50\pi - 96$

8.



O merkezli yarım çember

Semi-circle with a center O

$|AC| = |OC| = |BO| = 8$ br

$m(\widehat{COD}) = 60°$

Taralı bölgenin alanı kaç br²'dir?

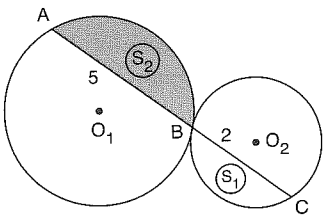
How many unit² is the area of the shaded sector?

A) $\frac{32\pi}{3}$ B) 12π C) $\frac{64\pi}{3}$ D) 24π E) 32π

PUZA YAYINLARI

www.ztcprep.com

9.



O_1 ve O_2 merkezli çemberler dıştan teğettir.

Circles with O_1 and O_2 centers are externally tangent

$|AB| = 5$ br

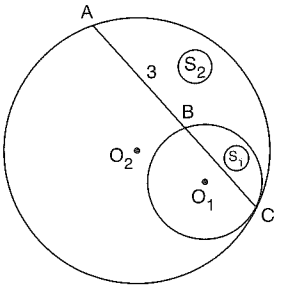
$|BC| = 2$ br

$S_1 = 8$ br^2

$\Rightarrow S_2 = ?$

A) 50 B) 40 C) 25 D) 20 E) 15

10.



O_1 ve O_2 merkezli çemberler içten teğettir.

Circles with O_1 and O_2 centers are internally tangent

$|AB| = 3$ br

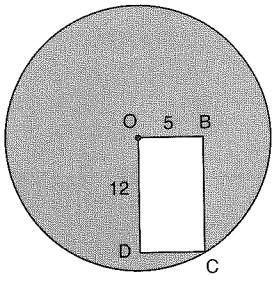
$|BC| = 1$ br

$S_1 = 4$ br^2

$\Rightarrow S_2 = ?$

A) 64 B) 60 C) 32 D) 28 E) 12

11.



O merkezli çember

A circles with a center O

OBCD dikdörtgen

OBCD rectangle

$|OB| = 5$ br

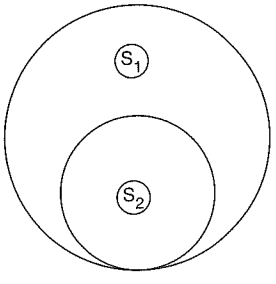
$|OD| = 12$ br

Taralı bölgenin alanı kaç br^2'dir?

How many unit^2 is the area of the shaded sector?

A) 169π B) $169\pi - 30$ C) $169\pi - 60$ D) 69π E) $26\pi - 60$

12.



Çemberlerin çevreleri oranı $\frac{1}{2}$

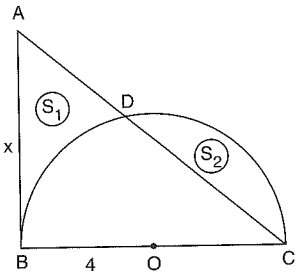
The ratio of the circumferences of the circles is 1/2

$S_1 = 9$ br^2

$\Rightarrow S_2 = ?$

A) 3 B) 4 C) 6 D) 8 E) 9

13.



O merkezli yarım çemberin yarıçapı 4 br

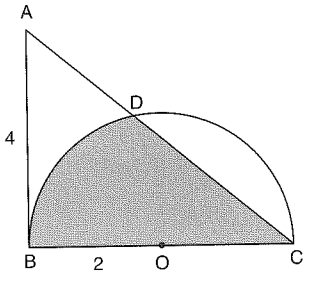
A Semi-circle with a center O, has a radius of 4 units

$S_1 = S_2$

$\Rightarrow |AB| = x = ?$

A) π B) 2π C) 3π D) 4π E) 5π

14.



O merkezli yarım çemberin yarıçapı 2 br

A Semi-circle with a center O, has a radius of 2 units

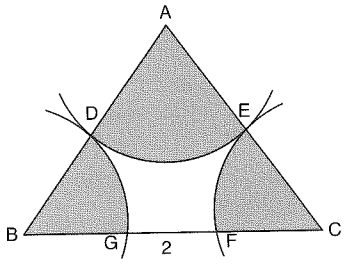
$|AB| = 4$ br

Taralı bölgenin alanı kaç br^2'dir?

How many unit^2 is the area of the shaded sector?

A) $\pi - 2$ B) π C) $2\pi - 2$ D) $\pi + 2$ E) $\pi + 4$

15.



Yarıçapları aynı olan A, B, C merkezli çemberler

Circles with the centers A, B and C with the same radii

Ç(ABC) = 14 br

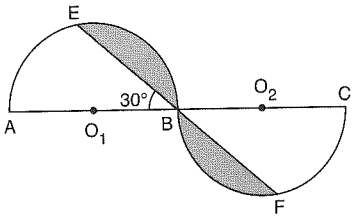
$|GF| = 2$ br

Taralı bölgenin alanı kaç br^2'dir?

How many unit^2 is the area of the shaded sector?

A) $15 - 4\pi$ B) $4\pi - 3\sqrt{7}$ C) 4π D) 2π E) π

16.



O_1 ve O_2 merkezli yarım çemberler

Semi-circles with O_1 and O_2 center points

$|AB| = 2|BC| = 8$ br

$m(\widehat{EBA}) = 30°$

Taralı bölgenin alanı kaç br^2'dir?

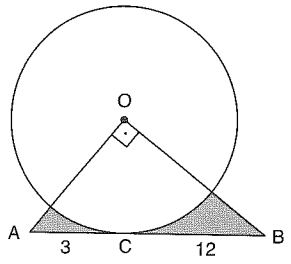
How many unit^2 is the area of the shaded sector?

A) $\pi - 2$ B) $5\pi - 10$ C) $\frac{20\pi}{3} - 5\sqrt{3}$ D) $\frac{20\pi}{3} - 6\sqrt{3}$ E) 10π

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

www.ztcprep.com

1.



O merkezli çember

A circle with a center O

[AO] ⊥ [OB]

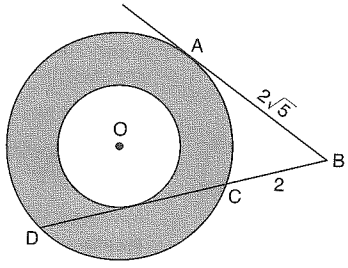
4|AC| = |CB| = 12 br

Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) 36π B) $90 - 18\pi$ C) 36 D) $45 - 9\pi$ E) $36\pi - 45$

2.



O merkezli çemberler

Circles with a center O

$|AB| = 2\sqrt{5}$ br

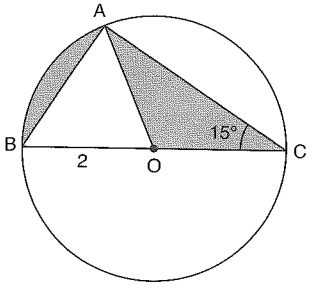
|BC| = 2 br

Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) 4π B) 9π C) 16π D) 25π E) 36π

3.



O merkezli çember

A circle with a center O

|BO| = 2 br

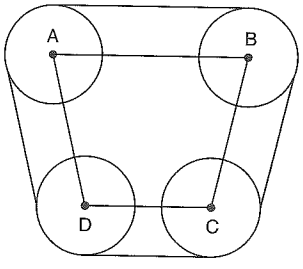
$m(\widehat{ACB}) = 15°$

Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) $\frac{\pi}{3}$ B) $\frac{5\pi}{3}$ C) 3π D) 4π E) 5π

4.



Yarıçapı 2 br olan A, B, C, D merkezli eş çemberler

Congruent circles with the centers A, B and C with a radius of 2 units

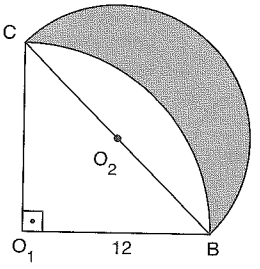
Ç(ABCD) = 22π

Çemberlerin çevresine gerilmiş ipin uzunluğu kaç br'dir?

How many unit is the length of the thread tightened around the circumferences of the circles?

A) 24π B) 26π C) 28π D) 30π E) 32π

5.



O_1 ve O_2 merkezli çemberler

Circles with O_1 and O_2 center points

$[CO_1] \perp [O_1 B]$

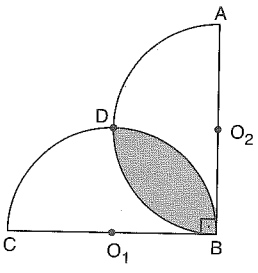
$|O_1B| = 12$ br

Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) $72 - 27\pi$ B) $72 - 25\pi$ C) $16\pi - 16$ D) 72 E) 25π

6.



O_1 ve O_2 merkezli eş yarım çemberler

Congruent semicircles with centers of O_1 and O_2

[AB] ⊥ [BC]

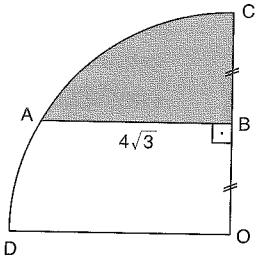
|AB| = 4 br

Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) $\pi - 4$ B) $\pi - 2$ C) π D) $2\pi - 4$ E) $2\pi - 2$

7.



O merkezli çeyrek çember

A quarter circle with a center O

[CB] ⊥ [BA]

$|AB| = 4\sqrt{3}$ br

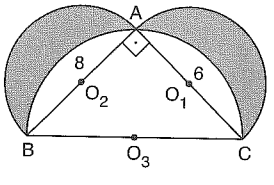
|CB| = |BO|

Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) $\frac{32\pi}{3} - 8\sqrt{3}$ B) $8\pi - 4\sqrt{3}$ C) $\frac{16\pi}{3} - 4\sqrt{3}$ D) $8\pi - 8\sqrt{3}$ E) $4\pi + 4\sqrt{3}$

8.



O_1, O_2 ve O_3 merkezli çemberler

Circles with centers of O_1, O_2 and O_3

[BA] ⊥ [AC]

|AB| = 8 br

|AC| = 6 br

Taralı bölgenin alanı kaç br²'dir?

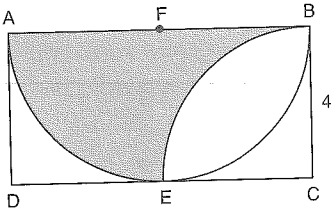
How many unit² is the area of the shaded sector?

A) 25π B) 24π C) 22π D) 24 E) 12

PUZA YAYINLARI

www.ztcprep.com

9.



C ve F merkezli çemberler

Circles with C and F center points

ABCD dikdörtgen

ABCD rectangle

$|BC| = 4$ br

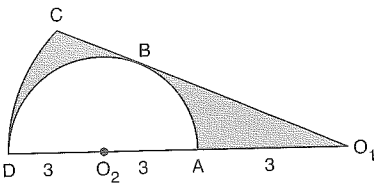
Taralı bölgenin alanı kaç br^2'dir?

How many unit2 is the area of the shaded sector?

A) 16 B) $18\pi - 4$ C) $32 - 8\pi$

D) $8\pi - 16$ E) $16 - 4\pi$

10.



O_1 ve O_2 merkezli çemberler

Circles with O_1 and O_2 center points

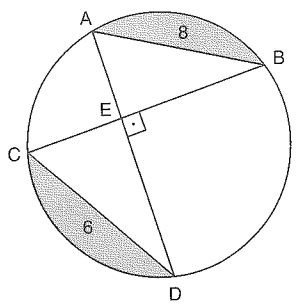
$|DO_2| = |O_2A| = |AO_1| = 3$ br

Taralı bölgenin alanı kaç br^2'dir?

How many unit^2 is the area of the shaded sector?

A) 12π B) 8π C) $\frac{15\pi}{2}$ D) $\frac{9\pi}{2}$ E) 2π

11.



$[AD] \perp [CB]$

$|AB| = 8$ br

$|CD| = 6$ br

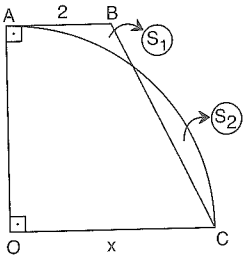
Taralı bölgenin alanı kaç br^2'dir?

How many unit^2 is the area of the shaded sector?

A) 24 B) $25\pi - 24$ C) $100\pi - 24$

D) $25\pi + 48$ E) $\frac{25\pi}{2} - 24$

12.



O merkezli çeyrek çember

A quarter circle with a center O

$S_1 = S_2$

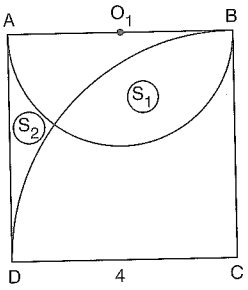
$|AB| = 2$ br

$\Rightarrow |OC| = x = ?$

A) $\frac{2}{\pi - 2}$ B) $\frac{4}{\pi - 2}$ C) $2\pi - 4$

D) $\pi + 2$ E) $4\pi + 8$

13.



O_1 ve C merkezli çemberler

Circles with O_1 and C center points

ABCD kare

ABCD square

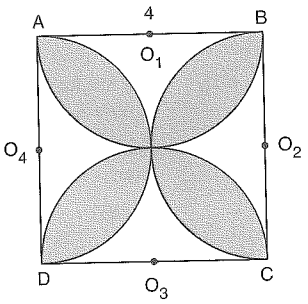
$|DC| = 4$ br

$\Rightarrow S_1 - S_2 = ?$

A) $6\pi - 18$ B) $8\pi - 16$ C) $6\pi - 16$

D) $6\pi - 24$ E) $8\pi - 18$

14.



O_1, O_2, O_3 ve O_4 merkezli çemberler

Circles with O_1, O_2, O_3 and O_4 center points

ABCD kare

ABCD square

$|AB| = 4$ br

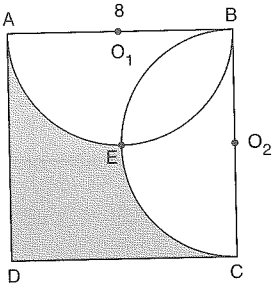
Taralı bölgenin alanı kaç br^2'dir?

How many unit^2 is the area of the shaded sector?

A) $2\pi - 5$ B) $\pi - 2$ C) $\pi - 1$

D) $2\pi - 4$ E) $8\pi - 16$

15.



O_1 ve O_2 merkezli yarım çemberler

Semi-circles with O_1 and O_2 center points

ABCD kare

ABCD square

$|AB| = 8$ br

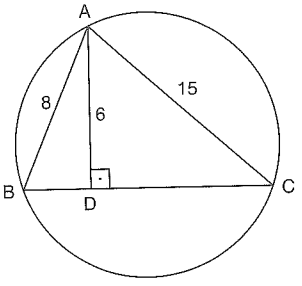
Taralı bölgenin alanı kaç br^2'dir?

How many unit$_2$ is the area of the shaded sector?

A) $48 - 8\pi$ B) $80 - 24\pi$ C) $16\pi - 16$

D) $24\pi - 16$ E) $48 + 8\pi$

16.



$[AD] \perp [BC]$

$|AB| = 8$ br

$|AC| = 15$ br

$|AD| = 6$ br

Şekildeki dairenin alanı kaç br^2'dir?

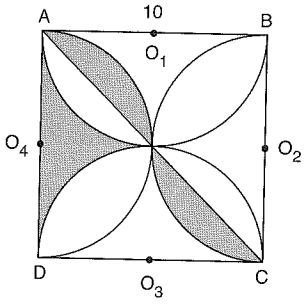
How many unit^2 is the area of the circle in the figure?

A) 64π B) $\frac{289\pi}{4}$ C) 81π D) 100π E) 200π

PUZA YAYINLARI

www.ztcprep.com

1.



O_1, O_2, O_3 ve O_4 merkezli çemberler

Circles with O_1, O_2, O_3 and O_4 center points

ABCD kare

ABCD square

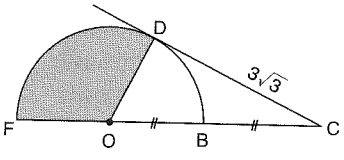
$|AB| = 10$ br

Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) 25 B) 50 C) 25π D) $25\pi - 10$ E) $50\pi - 10$

2.



O merkezli yarım çember

Semi-circle with a center O

$|OB| = |BC|$

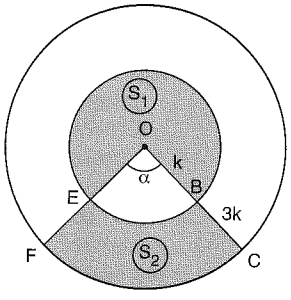
$|DC| = 3\sqrt{3}$ br

Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) 2π B) 3π C) 6π D) 9π E) 12π

3.



O merkezli çemberler

Circles with a center O

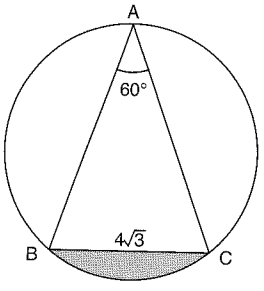
$S_1 = S_2$

$3|OB| = |BC|$

$\Rightarrow m(\widehat{FOC}) = \alpha = ?$

A) 22,5 B) 30 C) 40 D) 45 E) 60

4.



$m(\widehat{BAC}) = 60°$

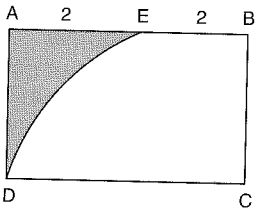
$|BC| = 4\sqrt{3}$ br

Taralı bölgenin alanı kaç br² dir?

How many unit² is the area of the shaded sector?

A) $4\sqrt{3}$ B) $16\pi - 4\sqrt{3}$ C) $\frac{16\pi}{3} - 4\sqrt{3}$ D) $16\pi - 4$ E) 4π

5.



C merkezli çember dilimi

Slice of a circle with a center C

ABCD dikdörtgen

ABCD rectangle

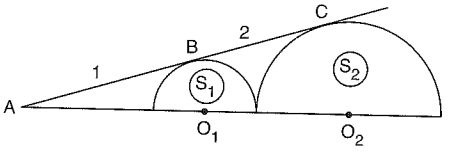
$|AE| = |EB| = 2$ br

Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) $6\sqrt{3} - \frac{8\pi}{3}$ B) $6\sqrt{3} - 4\pi$ C) $9\sqrt{3} - 4\pi$ D) $9\sqrt{3} + 4\pi$ E) $12\sqrt{3} - \frac{4\pi}{3}$

6.



$|AB| = 1$ br

$|BC| = 2$ br

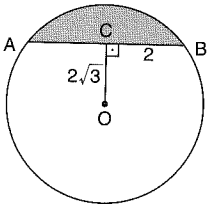
O_1 ve O_2 merkezli yarım çemberler

Semi-circles with O_1 and O_2 center points

$\Rightarrow \frac{S_2}{S_1} = ?$

A) 2 B) $\frac{5}{2}$ C) 3 D) $\frac{9}{2}$ E) 9

7.



O merkezli çember

Circles with a center O

$[OC] \perp [AB]$

$|CB| = 2$ br

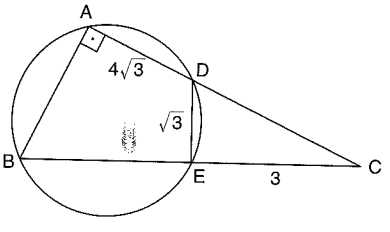
$|OC| = 2\sqrt{3}$ br

Taralı bölgenin alanı kaç br² dir?

How many unit² is the area of the shaded sector?

A) $\frac{8\pi}{3} - 4\sqrt{3}$ B) $8\pi - 4\sqrt{3}$ C) $4\pi - 2\sqrt{3}$ D) 4π E) 2π

8.



$[BA] \perp [AC]$

$|AD| = 4\sqrt{3}$ br

$|DE| = \sqrt{3}$ br

$|EC| = 3$ br

Şekildeki dairenin alanı kaç br² dir?

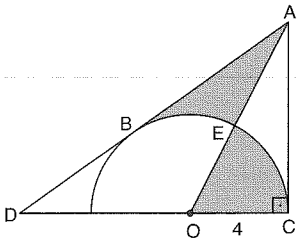
How many unit² is the area of circle the in figure?

A) 21π B) 24π C) 36π D) 64π E) 144π

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

www.ztcprep.com

9.



O merkezli yarım çember

Semi-circle with a center O

$|AB| = 6$ br

$|OC| = 4$ br

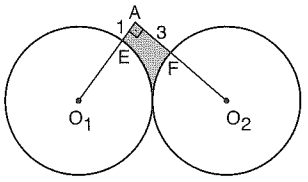
Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) $8\pi + 6$ B) $4\pi + 6$ C) 24

D) 12 E) $24 - \frac{25\pi}{2}$

10.



O_1 ve O_2 merkezli eş çemberler

Congruent circles with centers of O_1 and O_2

$|EA| = 1$ br

$|AF| = 3$ br

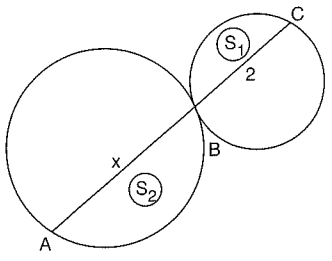
Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) 15π B) $96 - 25\pi$ C) $96 - \frac{25\pi}{4}$

D) $24 - \frac{25\pi}{4}$ E) $24 - 15\pi$

11.



$S_1 = 10$ br²

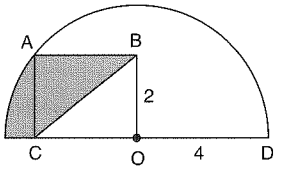
$S_2 = 20$ br²

$|BC| = 2$ br

$\Rightarrow |AB| = x = ?$

A) 1 B) $\sqrt{2}$ C) 2 D) $2\sqrt{2}$ E) 4

12.



O merkezli yarım çember

Semi-circle with a center O

ABOC dikdörtgen

ABOC rectangle

$|BO| = 2$ br

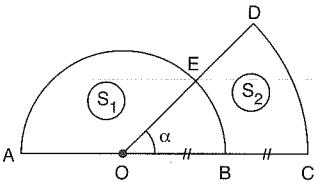
$|OD| = 4$ br

Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) $\frac{\pi}{3}$ B) $\frac{4\pi}{3}$ C) 3π D) 6π E) 8π

13.



O merkezli çemberler

Circles with a center O

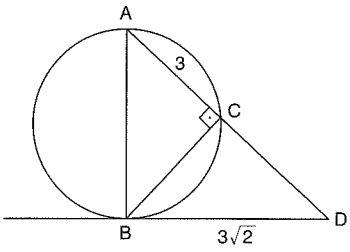
$S_1 = S_2$

$|OB| = |BC|$

$\Rightarrow m(\widehat{DOC}) = \alpha = ?$

A) 30 B) 36 C) 45 D) 60 E) 67,5

14.



$[AC] \perp [CB]$

$|AC| = 3$ br

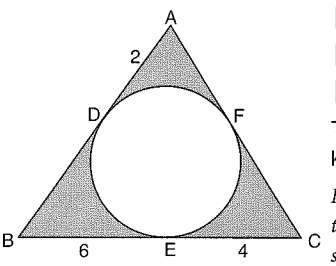
$|BD| = 3\sqrt{2}$ br

Şekildeki dairenin alanı kaç br²'dir?

How many unit² is the area of the circle in figure?

A) 3π B) $\frac{9}{2}\pi$ C) 6π D) 9π E) 18π

15.



$|AD| = 2$ br

$|BE| = 6$ br

$|EC| = 4$ br

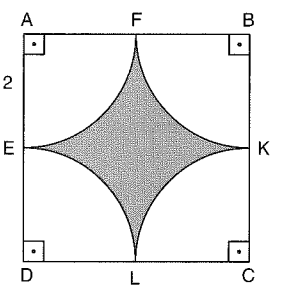
Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) 12 B) 24 C) $24 - 4\pi$

D) $12 - 4\pi$ E) $48 - 4\pi$

16.



A, B, C ve D merkezli eş çemberler

Congruent circles with centers of A, B, C and D

$|AE| = 2$ br

Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

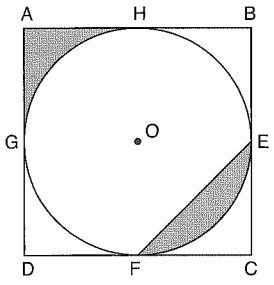
A) $16 - 4\pi$ B) $16 - \pi$ C) $8 - 4\pi$

D) $8 - 2\pi$ E) 4π

PUZA YAYINLARI

www.ztcprep.com

1.



O merkezli çember

A circle with a center O

ABCD kare

ABCD square

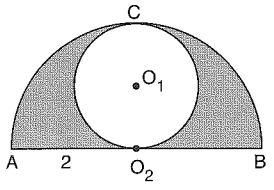
$|AB| = 6$ br

Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) $\frac{3}{2}$ B) π C) $\frac{9}{2}$ D) 9 E) 3π

2.



O_1 ve O_2 merkezli çemberler

Circles with O_1 and O_2 center points

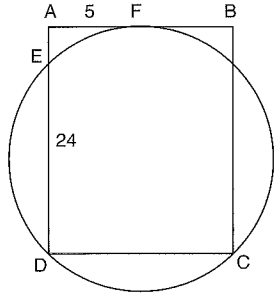
$|AO_2| = 2$ br

Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) π B) 2π C) 3π D) 4π E) 5π

3.



ABCD dikdörtgen

ABCD rectangle

$|AF| = 5$ br

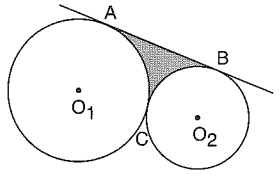
$|ED| = 24$ br

Şekildeki dairenin alanı kaç br²'dir?

How many unit² is the area of the circle in the figure?

A) 169π B) 144π C) 100π D) 81π E) 64π

4.



O_1 ve O_2 merkezli çemberlerin yarıçapları sırasıyla 6 ve 2'dir.

The radii of the circles with the centers O_1 and O_2 are 6 and 2, respectively.

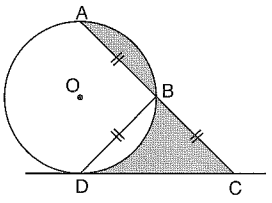
Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) $8\sqrt{3} - \frac{11\pi}{3}$ B) $16\sqrt{3} - 8\pi$ C) $9\pi - 8\sqrt{3}$

D) $16\sqrt{3} - \frac{22\pi}{3}$ E) 8π

5.



O merkezli çemberin çevresi 6π

Circumference of a circle with a center O is 6π

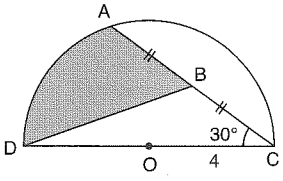
$|AB| = |BC| = |DB|$

Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) 3 B) $3\pi + 2$ C) 9 D) $9 + \pi$ E) $16 + 2\pi$

6.



O merkezli yarım çemberin yarıçapı 4 br

A semi-circle with a center O, has a radius of 4 units

$|AB| = |BC|$

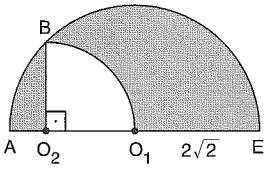
$m(\widehat{ACD}) = 30°$

Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) 4 B) 9 C) 16 D) $\frac{\pi}{4}$ E) $\frac{8\pi}{3}$

7.



O_1, O_2 merkezli yarım ve çeyrek çemberler

Semi- and quarter circles with O_1 and O_2 center points

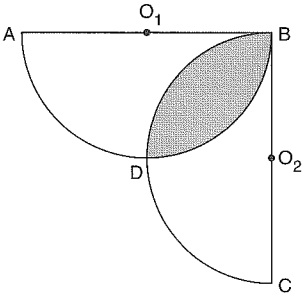
$|O_1E| = 2\sqrt{2}$ br

Taralı bölgenin alanı kaç br²'dir?

How many unit² is the area of the shaded sector?

A) π B) 2π C) 3π D) 4π E) 5π

8.



O_1 ve O_2 merkezli eş çemberlerin yarıçapı 2 br

The radius of congruent circles with O_1 and O_2 center points is 2 units

Taralı bölgenin alanı kaç br²'dir?

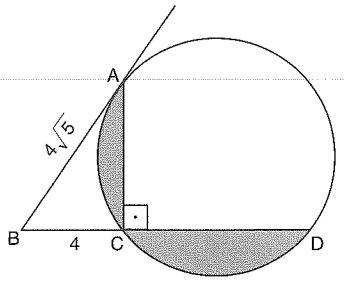
How many unit² is the area of the shaded sector?

A) $\pi - 2$ B) π C) $2\pi - 4$ D) $\pi + 4$ E) $2\pi + 4$

PUZA YAYINLARI

www.ztcprep.com

9.



$[AC] \perp [BD]$

$|AB| = 4\sqrt{5}$ br

$|BC| = 4$ br

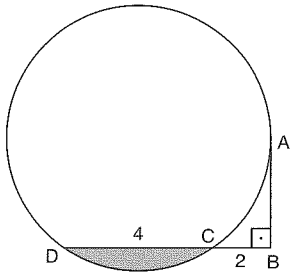
Taralı bölgenin alanı kaç br^2 dir?

How many unit^2 is the area of the shaded sector?

A) $64 - 18\pi$ B) $20\pi - 32$ C) $40\pi - 32$

D) $40\pi - 64$ E) $16\pi + 32$

10.



$[AB] \perp [DB]$

$2|BC| = |DC| = 4$ br

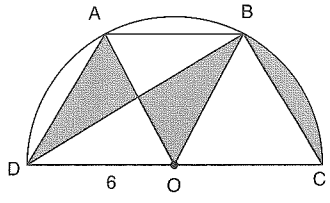
Taralı bölgenin alanı kaç br^2'dir?

How many unit^2 is the area of the shaded sector?

A) $\frac{4\pi}{3} - 2\sqrt{3}$ B) 4 C) 6

D) $4\sqrt{3}$ E) $\frac{8\pi}{3} - 4\sqrt{3}$

11.



O merkezli yarım çember

Semi-circle with a center O

ABOD paralelkenar

ABOD parallelogram

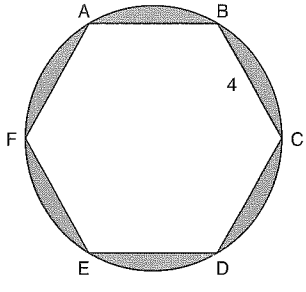
$|OD| = 6$ br

Taralı bölgenin alanı kaç br^2'dir?

How many unit^2 is the area of the shaded sector?

A) 4π B) 6π C) 9π D) 12π E) 15π

12.



ABCDEF düzgün altıgen

ABCD regular hexagon

$|BC| = 4$ br

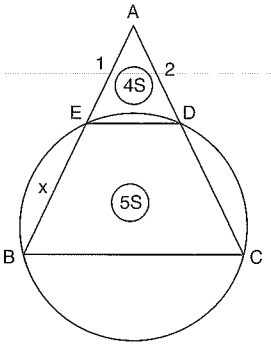
Taralı bölgenin alanı kaç br^2'dir?

How many unit^2 is the area of the shaded sector?

A) $16\pi - 2\sqrt{3}$ B) $16\pi - 4\sqrt{3}$ C) $8\pi + 4\sqrt{3}$

D) $8\pi - 2\sqrt{3}$ E) $16\pi - 24\sqrt{3}$

13.



$A(AED) = 4S$

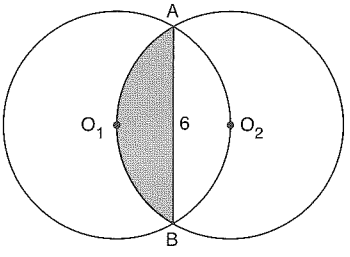
$A(EDCB) = 5S$

$|AD| = 2|AE| = 2$ br

$\Rightarrow |EB| = x = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

14.



O_1 ve O_2 merkezli eş çemberler

Congruent circles with centers of O_1 and O_2

$|AB| = 6$ br

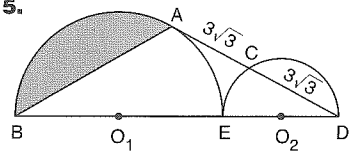
Taralı bölgenin alanı kaç br^2'dir?

How many unit^2 is the area of the shaded sector?

A) $4\pi + 3\sqrt{3}$ B) $2\pi + 3\sqrt{3}$ C) $9\pi - 18$

D) $4\pi - 3\sqrt{3}$ E) $4\pi - 6\sqrt{3}$

15.



O_1 ve O_2 merkezli yarım çemberler

Semi-circles with O_1 and O_2 center points

$|AC| = |CD| = 3\sqrt{3}$ br

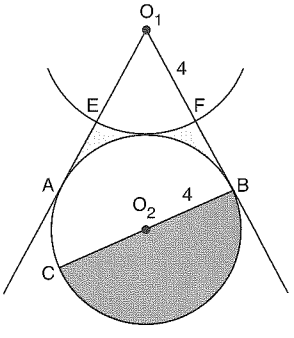
Taralı bölgenin alanı kaç br^2'dir?

How many unit^2 is the area of the shaded sector?

A) $12\pi - 9\sqrt{3}$ B) 9π C) $12\pi - 18\sqrt{3}$

D) 6π E) $4\pi - 4\sqrt{3}$

16.



O_1 ve O_2 merkezli 4 br yarıçaplı eş çemberler

Congruent circles with O_1 and O_2 center points with a radius of 4 units

Taralı bölgenin alanı kaç br^2'dir?

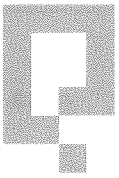
How many unit^2 is the area of the shaded sector?

A) $3\sqrt{3}$ B) $4\sqrt{3}$ C) $8\sqrt{3}$ D) $12\sqrt{3}$ E) $16\sqrt{3}$

PUZA YAYINLARI

www.ztcprep.com

ZTC زنگنه مجموعه موسسات



DAİREDE ALAN AREAS IN CIRCULAR REGION

Yanıt Anahtarı Answer Key

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	D	B	D	C	B	D	C	A	B	B	C	E	E	B	B

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	D	C	E	A	A	A	C	A	E	E	E	A	A	E	E

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	B	C	D	A	E	C	D	A	D	C	E	E	C	B	C

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	C	E	E	A	C	E	C	A	B	C	A	B	D	D	C

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	A	B	D	D	A	D	A	D	E	B	C	E	A	D

TEST 6

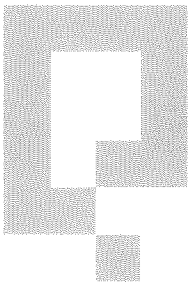
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	B	A	C	A	E	A	A	D	D	D	B	C	B	C	A

TEST 7

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	A	A	D	C	E	C	C	D	E	B	E	B	D	A	E

www.ztcprep.com

زنگنه ZTC
مجموعه موسسات

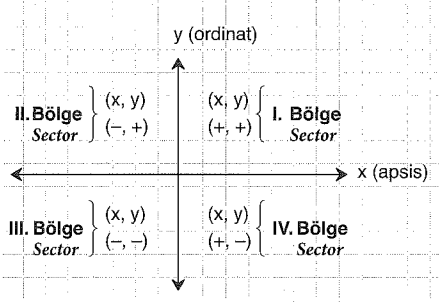


ANALİTİK GEOMETRİ

ANALYTIC GEOMETRY-LINE

www.ztcprep.com

ÖZELLİK | Property 1



1. $A(a^2, -b^3 \cdot a^4)$ noktası koordinat düzleminde I. bölgede ise $B(-b, -a^2)$ noktası koordinat düzleminde kaçıncı bölgededir?

If the point $A(a^2, -b^3 \cdot a^4)$ is in the I.st sector at the coordinate system, then which sector is the point $B(-b, -a^2)$ at the coordinate system?

IV

2. $A(a - 4, a \cdot b)$ noktası koordinat düzleminde IV. Bölgede ise $B(b - a, a^2 \cdot b)$ noktası koordinat düzleminde kaçıncı bölgededir?

If the point $A(a - 4, a \cdot b)$ is in the IV.th sector at the coordinate system, then which sector is the point $B(b - a, a^2 \cdot b)$ at the coordinate system?

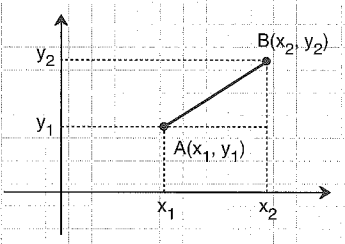
III

3. $A(4a - 24, a - 12)$ noktası koordinat düzleminde IV. Bölgede olduğuna göre, a'nın tanım aralığı nedir?

In case the point $A(4a-24, a-12)$ is in I.st sector at the coordinate system, what is the definition range of a?

$6 < a < 12$

ÖZELLİK | Property 2



$$|AB| = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

1. $A(3, -2)$, $B(-2, 10)$

$\Rightarrow |AB| = ?$

13

2. $A(x, 3)$, $B(2, -5)$, $|AB| = 10$ br

$\Rightarrow \sum x = ?$

4

3. $A(3, 2)$, $B(x, 1)$, $C(-2, -2)$

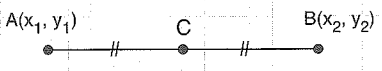
$|AB| = |BC|$ $\Rightarrow x = ?$

$-\frac{3}{10}$

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK|Property 3



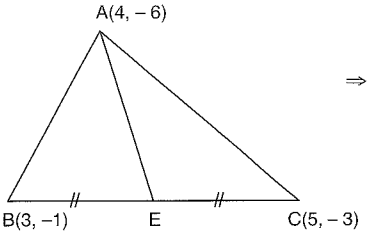
$$|AC| = |BC| \Rightarrow C\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$$

1. A(2, 4) — C(x, y) — B(–3, –5)

$\Rightarrow C(x, y) = ?$

$\left(-\frac{1}{2}, -\frac{1}{2}\right)$

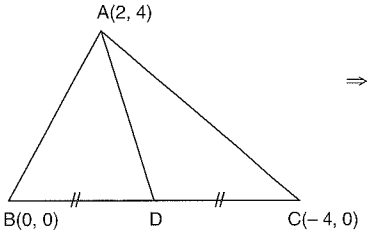
2.



$\Rightarrow |AE| = ?$

4

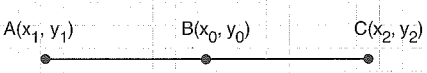
3.



$\Rightarrow |AD| = ?$

$4\sqrt{2}$

ÖZELLİK|Property 4



$B \in [AC]$

$\frac{|BA|}{|BC|} = k$

$$x_0 = \frac{x_1 + kx_2}{1 + k}$$

$$y_0 = \frac{y_1 + ky_2}{1 + k}$$

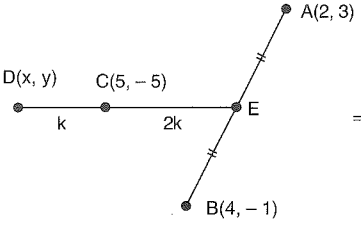
1. A(–1, 5) — B(x, y) — C(7, 1)

k — 3k

$\Rightarrow B(x, y) = ?$

(1, 4)

2.



$\Rightarrow D(x, y) = ?$

(6, – 8)

3. A(0, – 2) — B(– 3, 4)

$C \notin [AB]$

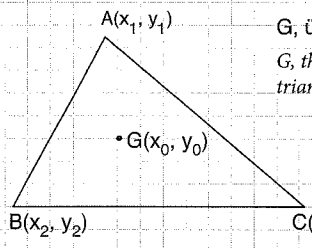
$\frac{|AC|}{|BC|} = \frac{1}{4}$

$\Rightarrow C(x, y) = ?$

(1, –4)

PUZA YAYINLARI

ÖZELLİK | Property 5

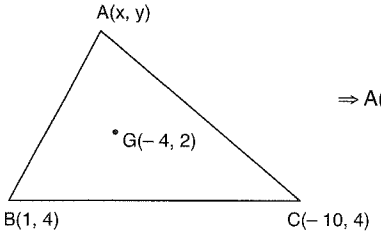


G, üçgenin ağırlık merkezi

G, the center of gravity of the triangle

$$x_0 = \frac{x_1 + x_2 + x_3}{3} \qquad y_0 = \frac{y_1 + y_2 + y_3}{3}$$

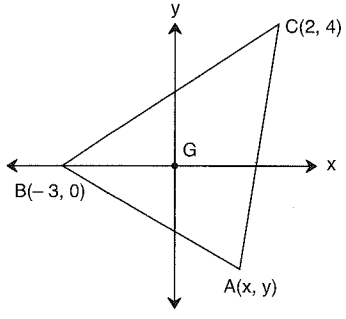
1.



⇒ A(x, y) = ?

(– 3, – 2)

2.



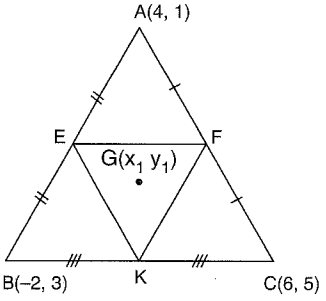
G, üçgenin ağırlık merkezi

G, the center of gravity of the triangle

⇒ A(x, y) = ?

(1, – 4)

3.



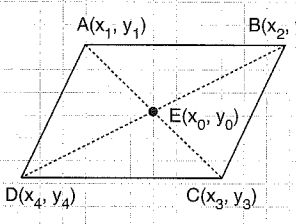
G, EFK üçgeninin ağırlık merkezi

G, the center of gravity of the EFK triangle

⇒ G(x_1, y_1) = ?

$\left(\frac{8}{3}, 3\right)$

ÖZELLİK | Property 6



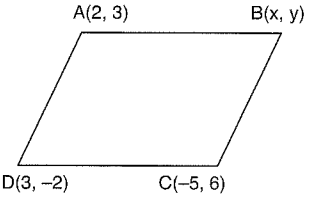
ABCD Paralelkenar

ABCD parallelogram

$$x_0 = \frac{x_1 + x_3}{2} = \frac{x_2 + x_4}{2} \qquad y_0 = \frac{y_1 + y_3}{2} = \frac{y_2 + y_4}{2}$$

$$x_1 + x_3 = x_2 + x_4$$
$$y_1 + y_3 = y_2 + y_4$$

1.



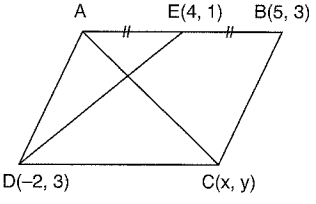
ABCD paralelkenar

ABCD parallelogram

⇒ B(x, y) = ?

(–6, 11)

2.



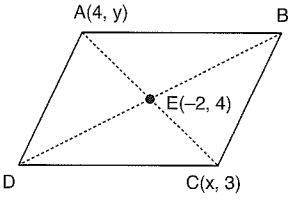
ABCD paralelkenar

ABCD parallelogram

⇒ C(x, y) = ?

(0, 7)

3.



ABCD paralelkenar

ABCD parallelogram

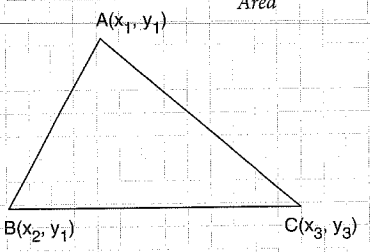
⇒ x + y = ?

–3

PUZA YAYINLARI

www.ztcprep.com

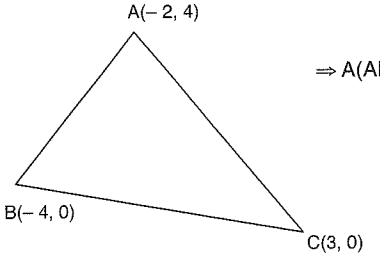
ÖZELLİK|Property 7 Alan / *Area*



$$A(ABC) = \frac{1}{2}\begin{vmatrix} x_1 & y_1 \\ x_2 & y_2 \\ x_3 & y_3 \end{vmatrix}$$

$$= \frac{1}{2}|x_1y_2 + x_2y_3 + x_3y_1 - y_1x_2 - y_2x_3 - y_3x_1|$$

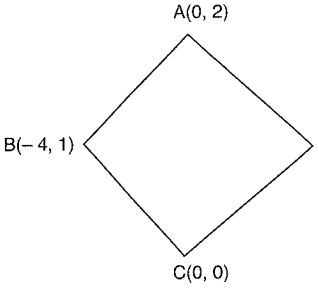
1.



⇒ A(ABC) = ?

14

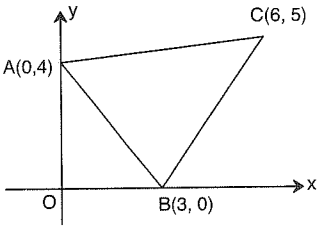
2.



⇒ A(ABCD) = ?

24

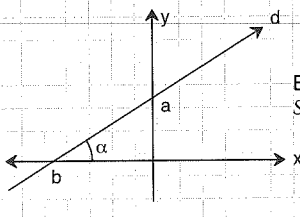
3.



⇒ A(ABC) = ?

$\frac{27}{2}$

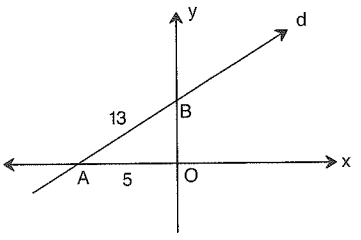
ÖZELLİK|Property 8 Eğim / *Slope*



Eğim = m = $\tan\alpha = \frac{a}{b}$
Slope

Doğrunun x ekseni ile pozitif yöndeki yaptığı açının tanjantı
The tangential of an angle between the x axis and a positive direction

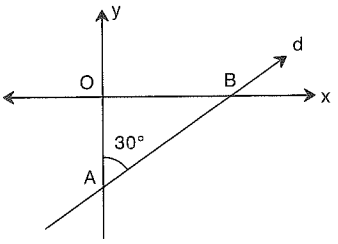
1.



⇒ m = ?

$\frac{12}{5}$

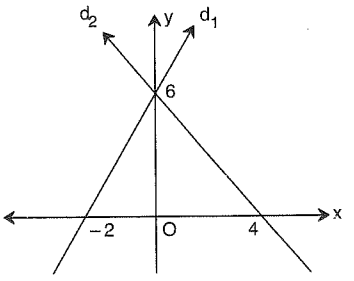
2.



⇒ m = ?

$\sqrt{3}$

3.



⇒ (m_1, m_2) = ?

$\left(3, -\frac{3}{2}\right)$

PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK|Property 9

Eğim
Slope

$d: ax + by + c = 0 \Rightarrow y = \underbrace{-\frac{a}{b}}\, x - \frac{c}{b}$

$\boxed{m = -\frac{a}{b}}$

1. $\left.\begin{array}{l} d_1: y = 2x - 4 \\ d_2: y = 7x - 1 \end{array}\right\} \Rightarrow m_1 = ?,\ m_2 = ?$

$\boxed{2, 7}$

2. $2y - 5 = 3x \quad \Rightarrow m = ?$

$\boxed{\frac{3}{2}}$

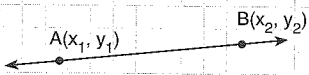
3. $\left.\begin{array}{l} d_1: 3x - y + 2 = 0 \\ d_2: 2x + 4y - 1 = 0 \end{array}\right\} \Rightarrow m_1 = ?,\ m_2 = ?$

$\boxed{3, -\frac{1}{2}}$

PUZA YAYINLARI

ÖZELLİK|Property 10

Eğim
Slope



$\boxed{m_{AB} = \frac{y_2 - y_1}{x_2 - x_1}}$

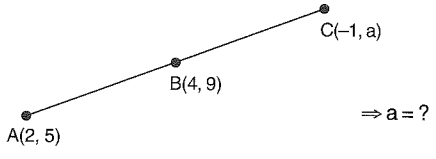
1. A(1, 3), B(–2, –7) $\Rightarrow m_{AB} = ?$

$\boxed{\frac{10}{3}}$

2. A(2, k), B(3, 5) $m_{AB} = 4$ $\Rightarrow k = ?$

$\boxed{1}$

3.



$\Rightarrow a = ?$

A, B ve C doğrusal noktalar
A, B and C points are linear

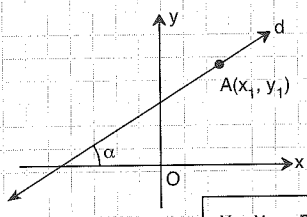
$\boxed{-1}$

www.ztcprep.com

ÖZELLİK/Property 11

- Bir noktası ve eğimi bilinen doğru denklemi

The equation of a line of which a point and its slope is known

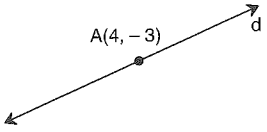


$m = \tan\alpha$

$A(x_1, y_1)$

$y - y_1 = m(x - x_1)$

1.

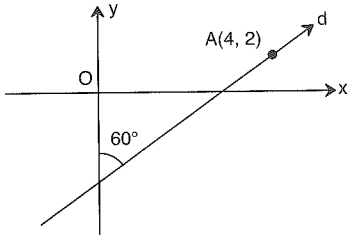


$m = 3$

$\Rightarrow d = ?$

$y - 3x + 15 = 0$

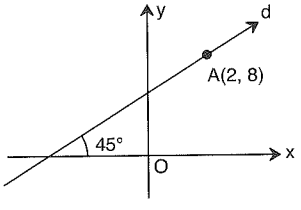
2.



$\Rightarrow d = ?$

$\sqrt{3}y - x - 2\sqrt{3} + 4 = 0$

3.



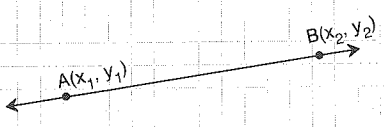
$\Rightarrow d = ?$

$y - x - 6 = 0$

ÖZELLİK/Property 12

- İki noktası bilinen doğru denklemi

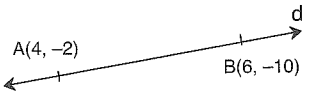
The equation of a line of which two points are known



$m = \dfrac{y_2 - y_1}{x_2 - x_1}$

$y - y_1 = m(x - x_1)$

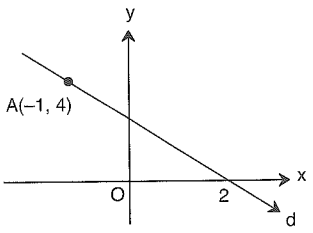
1.



$\Rightarrow d = ?$

$y + 4x - 14 = 0$

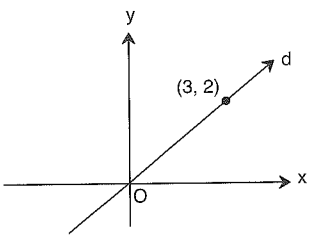
2.



$\Rightarrow d = ?$

$3y + 4x - 8 = 0$

3.



$\Rightarrow d = ?$

$3y - 2x = 0$

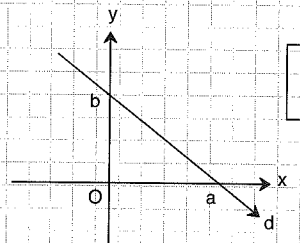
DİNÇ YAYINLARI

www.ztcprep.com

ÖZELLİK|Property 13

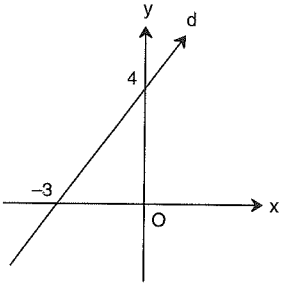
- Eksenleri kestiği noktaları bilinen doğru denklemi

The equation of a line of which points intersect the axis are known



$$d: \frac{x}{a} + \frac{y}{b} = 1$$

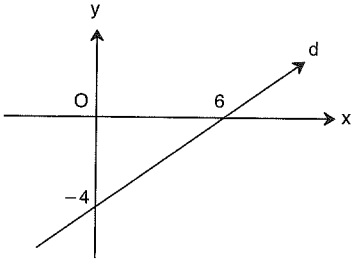
1.



⇒ d = ?

4x – 3y + 12 = 0

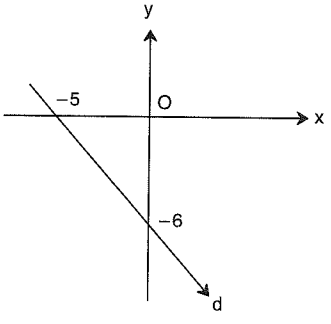
2.



⇒ d = ?

2x – 3y – 12 = 0

3.



⇒ d = ?

6x + 5y + 30 = 0

ÖZELLİK|Property 14

- Denklemi verilen doğrunun grafiğinin çizimi

Drawing of the graph of a line of which equation is given

d: ax + by + c = 0 denklemi

Its equation d: ax + by + c = 0

x = 0 için y değeri

For x=0, y value

y = 0 için x değeri koordinat düzleminde d doğrusunun eksenleri kestiği noktaların koordinatlardır.

For y=0, the x value have the coordinates of the point where d line intersects at the coordinate plane

1. 2x – 4y + 8 = 0 doğrusunun grafiğini çiziniz.

draw the graph of the line 2x – 4y + 8 = 0

2. y = 4x – 12 doğrusunun grafiğini çiziniz.

draw the graph of the line y = 4x – 12

3. 2y + 5x + 10 = 0 doğrusunun grafiğini çiziniz.

draw the graph of the line 2y + 5x + 10 = 0

PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK|Property 15

• Doğrular paralel $d_1 // d_2$

Lines are parallel to each other

$d_1 : a_1x + b_1y + c_1 = 0$

$d_2 : a_2x + b_2y + c_2 = 0$

• Doğrular paralel ise eğimleri eşittir.

If the lines are parallel to each other, then their slopes are the same

$m_1 = m_2 \quad -\frac{a_1}{b_1} = -\frac{a_2}{b_2} \Rightarrow \boxed{\frac{a_1}{b_1} = \frac{a_2}{b_2}}$

1. d_1: $2x + 3y + 5 = 0$

d_2: $x - ay - 4 = 0$

$d_1 // d_2 \Rightarrow a = ?$

$\boxed{-\frac{3}{2}}$

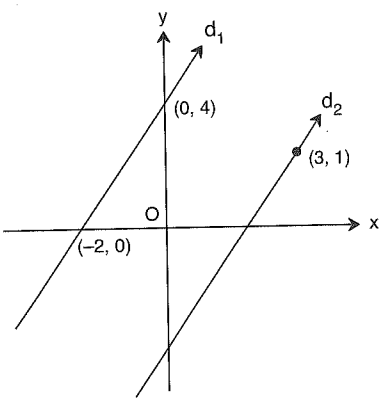
2. $d_1 : 2x - y + 6 = 0$

A(1, 2) → d_2

$d_1 // d_2 \Rightarrow d_2 = ?$

$\boxed{y = 2x}$

3.



$d_1 // d_2 \Rightarrow d_2 = ?$

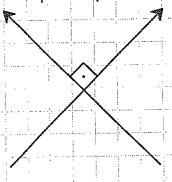
$\boxed{y - 2x + 5 = 0}$

ÖZELLİK|Property 16

• Doğrular dik kesişiyor ise

If the lines intersect each other at right angle

$d_1 : a_1x + b_1y + c_1 = 0 \quad d_2 : a_2x + b_2y + c_2 = 0$



$d_1 \perp d_2$

$m_1 \cdot m_2 = -1$

$\left(-\frac{a_1}{b_1}\right) \cdot \left(-\frac{a_2}{b_2}\right) = -1$

$\boxed{\frac{a_1}{b_1} \cdot \frac{a_2}{b_2} = -1}$

• Doğrular birbirine dik ise eğimleri çarpımı –1'dir.

If the lines are perpendicular to each other, then the multiplication of their slopes is -1.

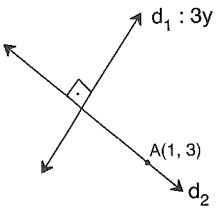
1. d_1: $2x + 4y + 3 = 0$

d_2: $ax - 6y + 4 = 0$

$d_1 \perp d_2 \Rightarrow a = ?$

$\boxed{12}$

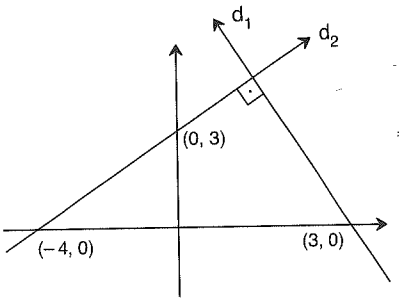
2.



$d_1 \perp d_2 \Rightarrow d_2 = ?$

$\boxed{y - x - 2 = 0}$

3.



$\Rightarrow d_1 = ?$

$\boxed{3y + 4x - 12 = 0}$

www.ztcprep.com

ZTC زنگنه مجموعه موسسات Özellikler

ÖZELLİK|Property 17

- Doğrular çakışık ise
  If the lines are coincident

$d_1 : a_1x + b_1y + c_1 = 0$

$d_2 : a_2x + b_2y + c_2 = 0$

$$\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$$



1. $d_1 : 2x + 3y - 12 = 0$

$d_2: 4x + ay + b = 0$

d_1 ve d_2 doğruları çakışık

d_1 and d_2 lines coincident

$\Rightarrow a + b = ?$

- 18

2. $d_1 : ax - 3y + 4 = 0$

$d_2: 12x - ay + b = 0$

d_1 ve d_2 doğruları çakışık

d_1 and d_2 lines coincident

$\Rightarrow b = ?$

8

3. $d_1 : (a - 1)x + 10y = 0$

$d_2: (a + 1)x + 15y = 0$

d_1 ve d_2 doğruları çakışık

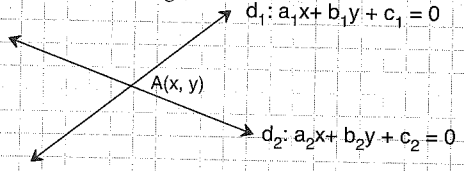
d_1 and d_2 lines coincident

$\Rightarrow a = ?$

5

ÖZELLİK|Property 18

- Doğrular kesişiyor ise
  Lines are intersecting



- Doğrular kesişiyorsa ortak çözüm yapılıp kesim noktası bulunur.

  If the lines intersect, a common solution is applied and the breakpoint / intersecting node is found

1. $d_1 : 2x - 3y + 5 = 0$

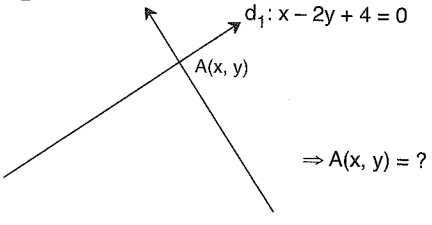
$d_2: x + y - 10 = 0$

Doğruların kesim noktasını bulunuz.

Find the intersecting points of the lines.

(5, 5)

2. $d_2: 3x + 4y - 10 = 0$



$\Rightarrow A(x, y) = ?$

$\left(\frac{2}{5}, \frac{11}{5}\right)$

3. $d_1 : x - y - 1 = 0$

$d_2: x + 3y - 9 = 0$

Doğruların kesim noktası ve (–2, 1) noktasından geçen doğru denklemi nedir?

What is the intersecting point of the lines and the equation of the line passes through the point (-2,1)?

5y - x - 7 = 0

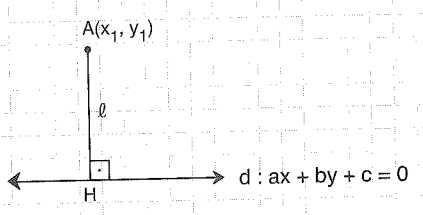
© PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK|Property 19

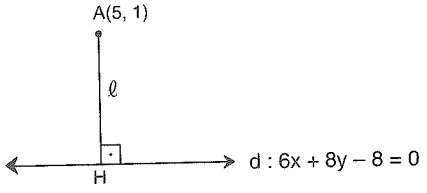
• Noktanın doğruya olan uzaklığı

The distance of the point to the line is



$$\ell = \frac{|ax_1 + by_1 + c|}{\sqrt{a^2 + b^2}}$$

1.



$\Rightarrow \ell = ?$

3

2. A(–2, 4) noktasının

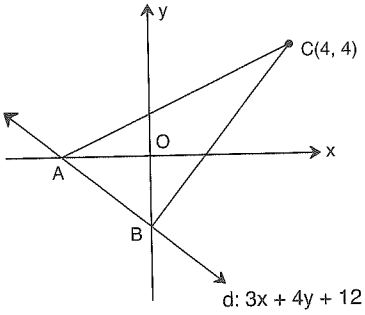
5x – 12y + 20 = 0 doğrusuna olan uzaklığı kaç birimdir?

Of the point A(-2,4)

the distance of the point to the line 5x – 12y + 20 = 0 is.

$\frac{38}{13}$

3.



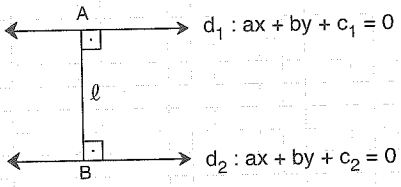
$\Rightarrow$ A(ABC) = ?

20

ÖZELLİK|Property 20

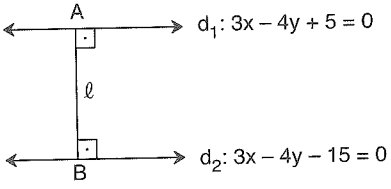
• Doğrunun doğruya olan uzaklığı $(d_1 // d_2)$

The distance of the line of the line is



$$\ell = \frac{|c_2 - c_1|}{\sqrt{a^2 + b^2}}$$

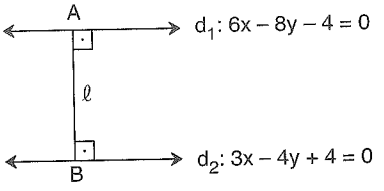
1.



$\Rightarrow \ell = ?$

4

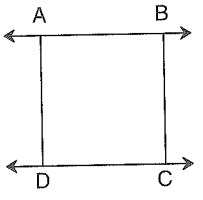
2.



$\Rightarrow \ell = ?$

$\frac{6}{5}$

3.



ABCD kare

ABCD square

$\Rightarrow$ A(ABCD) = ?

4

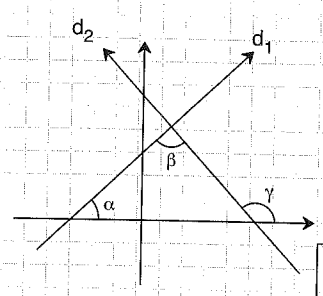
PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK | Property 21

• Doğrular arasındaki açının tanjantı

The tangential of the angle between the lines



$\alpha + \beta = \gamma$

$\beta = \gamma - \alpha$

$\tan\beta = \tan(\gamma - \alpha)$

$\tan\beta = \dfrac{\tan\gamma - \tan\alpha}{1 + \tan\gamma \cdot \tan\alpha}$

$$\tan\beta = \frac{m_2 - m_1}{1 + m_2 \cdot m_1}$$

1. $d_1 : 2x - y + 1 = 0$

$d_2 : 2y + 6x + 5 = 0$

Doğruları arasındaki dar açının tanjantı nedir?

What is the tangential of the acute angle between the line?

1

2. $d_1 : y = -x$

$d_2 : y = \sqrt{3}x - 18$

d_1 ve d_2 doğruları arasındaki dar açının ölçüsü kaç derecedir?

How many degree is the measurement of the acute angle between the d_1 and d_2 lines?

75

3. $d_1 : nx + y - 4 = 0$

$d_2 : -\sqrt{3}x + y - 4 = 0$

Doğruları arasındaki dar açının ölçüsü 15° olduğuna göre,

While the measurement of the acute angle between the lines is 15°

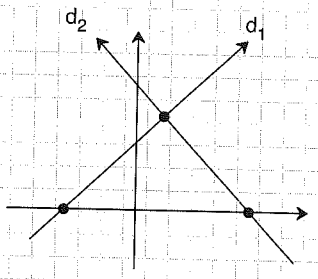
⇒ n = ?

-1

ÖZELLİK | Property 22

• Eşitsizlik grafikleri

Graphs of inequality



Doğruların kesim noktası ve eksenleri kestiği noktalar bulunarak grafik çizilir. Oluşan bölgelerden noktalar alınarak eşitsizliğin sağlanıp sağlanmadığı kontrol edilir.

By finding intersecting point of the lines and the points where the axis intersected the graph is drawn, and by sampling the points at the sectors formed it is cross checked whether the inequality is proven or not.

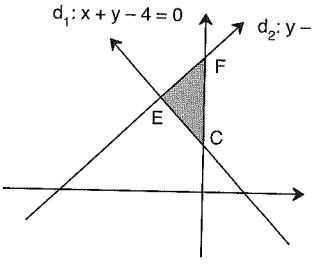
1. $d_1 : -3 \le x + y$

$d_2 : 2x - y + 2 \ge 0$

Doğrularının oluşturduğu ifadenin grafiğini çiziniz.

Draw the graph of the expression formed by the lines.

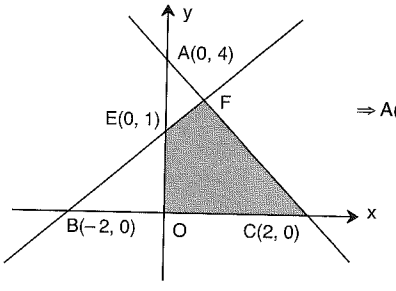
2.



⇒ A(EFC) = ?

4

3.



⇒ A(EOCF) = ?

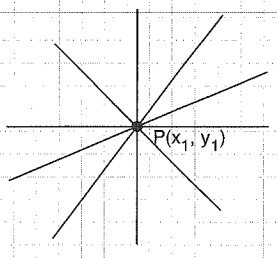
$\frac{11}{5}$

PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK|Property 23 Doğru Demeti

Line Bundle



$ax + by + c + k(dx + ey + f) = 0$

$ax + by + c = 0$

$dx + ey + f = 0$

1. $k \in R$

$(1 + 2k)x - (2 - 3k)y + 6 - 2k = 0$

Doğrularının geçtiği noktanın koordinatları nedir?

What is the coordinates of the point where the line intersects?

(-2, 2)

2. $a \in R$

$(a - 1)x + 2ay - 4 = 0$

Doğrularının geçtiği noktanın koordinatları nedir?

What is the coordinates of the point where the line intersects?

(-4, 2)

3. $k \in R$

$(k - 2)y + x - 2k = 0$

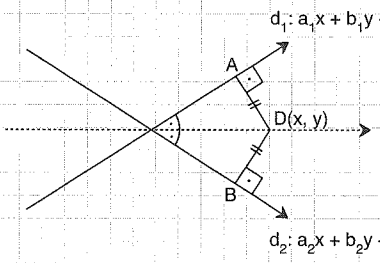
Doğrularının kesim noktası ve orijinden geçen doğru denklemi nedir?

What is the intersecting point of the lines and the equation of the line passes through the origin?

2y - x = 0

ÖZELLİK|Property 24 Açıortay Denklemi

Equation of Angle Bisector.



$$\frac{a_1x + b_1y + c_1}{\sqrt{a_1^2 + b_1^2}} = \pm \frac{a_2x + b_2y + c_2}{\sqrt{a_2^2 + b_2^2}}$$

1. Denklemler:

Equations:

$3x - 4y + 2 = 0$ ve

$3x + 4y + 4 = 0$ olan doğruların oluşturduğu açıortay denklemlerinden biri nedir?

What is one of the angle bisector equations formed by lines such as?

4y + 1 = 0

2. Denklemler:

Equations:

$2x - y - 4 = 0$ ve

$2y + x - 2 = 0$ olan doğruların oluşturduğu açıortay denklemlerinden biri nedir?

What is one of the angle bisector equations formed by lines such as?

y + 3x - 6 = 0

3. Denklemler:

Equations:

$3x - 4y + 5 = 0$ ve

$6y + 8x + 4 = 0$ olan doğruların oluşturduğu açıortay denklemlerinden biri nedir?

What is one of the angle bisector equations formed by lines such as?

7y + x - 3 = 0

PUZA YAYINLARI

www.ztcprep.com

1. Analitik düzlemde II. bölgede bulunan A(m – 3, 4) noktasının eksenlere uzaklıkları toplamı 6 br

At the analytic plane, for a point A(m – 3, 4) in the II.nd sector, a total distance to the axis is 6 units

⇒ m = ?

A) –2 B) –1 C) 0 D) 1 E) 2

2. T(n – 4, 2n – 2) noktaları analitik düzlemde II. bölgededir.

T(n – 4, 2n – 2) points are in the II.nd sector at the analytic plain

$\Rightarrow \sum$ n = ?

A) 9 B) 7 C) 5 D) 3 E) 1

3. A(m – 3, 4) noktası Oy ekseni B(–2, n + 5) noktası Ox ekseni üzerinde

A(m – 3, 4) point is at the Oy axis, B(–2, n + 5) point is at the Ox axis

⇒ m + n = ?

A) –2 B) –1 C) 0 D) 2 E) 8

4. A(2a – 1, a + 4) I. bölgede eksenlere eşit uzaklıkta,

A(2a – 1, a + 4) point is at the I.st sector, with same distance to both axis

⇒ a = ?

A) 5 B) 4 C) 3 D) 2 E) 1

5. A(2, 4) — C(x, y) — B(–2, 6) $|AC| = |CB|$ ⇒ C(x, y) = ?

A) (0, 5) B) (2, 10) C) (0, 1) D) (4, 2) E) (4, 5)

6. A(3, 5) — B(5, –1) — C(x, y) $|AB| = |BC|$ ⇒ C(x, y) = ?

A) (8, 4) B) (7, –7) C) (2, 4) D) (4, 2) E) (14, –14)

7. A(1, 4) — C(x, y) — B(4, 1) $|AC| = |CB|$ ⇒ C(x, y) = ?

A) $\left(\frac{1}{2}, \frac{1}{2}\right)$ B) (2, 4) C) $\left(\frac{5}{2}, \frac{5}{2}\right)$ D) (5, 5) E) (10, 10)

8. A(2x+1, x+1) — C(1, 3) — B(x–2, x+3) $|AC| = |CB|$ ⇒ x = ?

A) 1 B) 2 C) 3 D) 4 E) 5

PUZA YAYINLARI

www.ztcprep.com

9. A(2, 3) B(7, –9) ⇒ |AB| = ?

A) 15 B) 13 C) $\sqrt{79}$ D) $\sqrt{61}$ E) 7

10. A(5, –2) B(2, –1) ⇒ |AB| = ?

A) 5 B) 4 C) $\sqrt{10}$ D) 3 E) 2

11. A(1, –2) B(x, 6) 10 |AB| = 10 ⇒ ∑x = ?

A) 2 B) 4 C) 6 D) 7 E) 8

12. A(2, 1), B(–3, 2), D, C(1, 4), x

|BD| = |DC| ⇒ |AD| = x = ?

A) 5 B) $\sqrt{17}$ C) $\sqrt{13}$ D) 3 E) 2

13. A(3, m), B(4, 2), C(–1, 3)
|AB| = |AC| ⇒ m = ?

A) 2 B) 4 C) 6 D) 8 E) 10

14. A(2, –2), B(m, 4), C(0, 3)
|AB| = |BC| ⇒ m = ?

A) 12 B) $\frac{39}{4}$ C) $\frac{27}{5}$ D) $\frac{1}{5}$ E) –1

15. A(3, 4) D B(5, 2) x C(0, 2) |AD| = |DB| ⇒ |CD| = x = ?

A) $\sqrt{23}$ B) $2\sqrt{5}$ C) $\sqrt{17}$ D) 4 E) $\sqrt{10}$

16. A(1, –2) ve B(–2, 4) noktalarına eşit uzaklıktaki noktaların geometrik yer denklemi nedir?

What is the geometrical place equation of the points that have the same distances to A(1, –2) and B(–2, 4) points?

A) 2x – 4y + 5 = 0 B) 2x + 12y – 15 = 0
C) 3x – 6y + 5 = 0 D) x + 6y – 7 = 0
E) x + y – 4 = 0

PUZA YAYINLARI

1. A(–2, 4) B(3, 1) C(x, y)

k 2k

$2|AB| = |BC|$

$\Rightarrow C(x, y) = ?$

A) (– 2, 4) B) (– 4, 8) C) (6, 8)

D) (13, – 5) E) (8, – 2)

2. A(0, –2) B(x, y) C(5, –12)

2k 3k

$3|AB| = 2|BC|$

$\Rightarrow B(x, y) = ?$

A) (4, – 4) B) (2, – 4) C) (4, – 6)

D) (1, – 6) E) (2, – 6)

3. $C \notin [AB]$ A(2, 3), B(4, –2)

$\frac{|AC|}{|BC|} = \frac{3}{2}$

$\Rightarrow C(x, y) = ?$

A) (8, –12) B) (6, –12) C) (6, – 7)

D) (8, – 7) E) (4, – 7)

4. $C \notin [AB]$ A(4, 2), B(7, – 4)

$\frac{|AC|}{|BC|} = \frac{2}{5}$

$\Rightarrow C(x, y) = ?$

A) (2, 6) B) (2, 4) C) (4, – 4)

D) (6, – 4) E) (– 4, 4)

5. $C \in [AB]$ A(–4, 5), B(–1, 14)

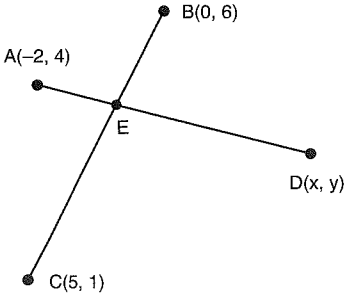
$\frac{|AC|}{|BC|} = 2$

$\Rightarrow C(x, y) = ?$

A) (– 2, 11) B) (– 3, 11) C) (– 2, 6)

D) (– 3, 6) E) (6, – 3)

6.



$3|EB| = 2|EC|$

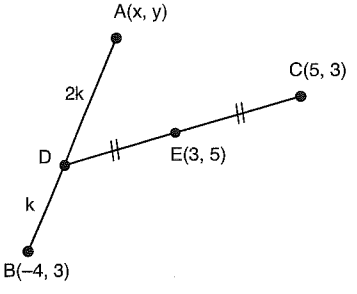
$3|AE| = |ED|$

$\Rightarrow D(x, y) = ?$

A) (6, 4) B) (6, 6) C) (14, 6)

D) (14, 4) E) (8, 6)

7.



$2|DB| = |AD|$

$|DE| = |EC|$

$\Rightarrow A(x, y) = ?$

A) (7, 11) B) (7, 15) C) (11, 11)

D) (11, 15) E) (7, 7)

8. $C \notin [AB]$, A(3, 4), B(8, –1)

$\frac{|AC|}{|BC|} = \frac{2}{3}$

$\Rightarrow C(x, y) = ?$

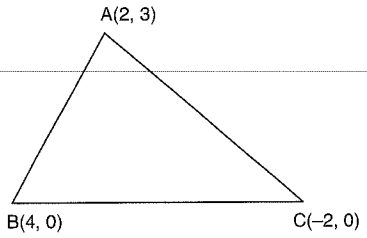
A) (5, 2) B) (5, 5) C) (2, 5)

D) (– 7, 10) E) (– 7, 14)

PUZA YAYINLARI

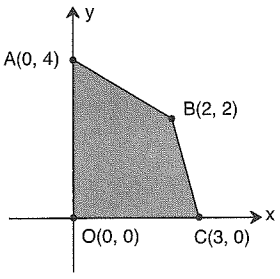
www.ztcprep.com

9. ⇒ A(ABC) = ?



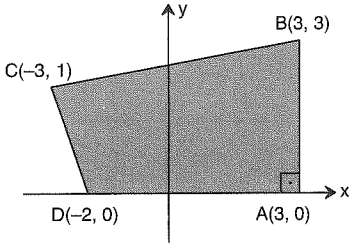
A) 18 B) 12 C) 9 D) 8 E) 6

10. ⇒ A(ABCO) = ?



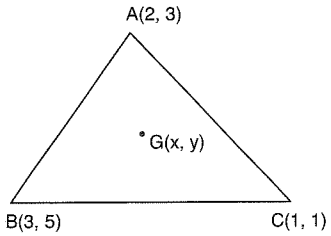
A) 15 B) 12 C) 9 D) 7 E) 6

11. ⇒ A(ABCD) = ?



A) 12 B) $\frac{23}{2}$ C) 10 D) $\frac{19}{2}$ E) 8

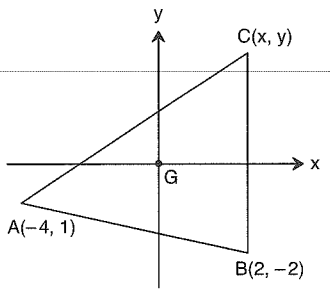
12.



G, ABC üçgeninin ağırlık merkezi
G, the center of gravity of ABC triangle
⇒ G(x, y) = ?

A) (2, 4) B) (1, 3) C) $\left(2, \frac{9}{2}\right)$
D) $\left(3, \frac{5}{3}\right)$ E) (2, 3)

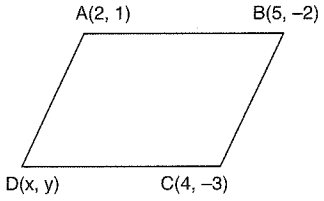
13.



G, ABC üçgeninin ağırlık merkezi
G, the center of gravity of ABC triangle
⇒ C(x, y) = ?

A) (1, 1) B) (2, 1) C) (1, 2)
D) (2, 3) E) (2, 2)

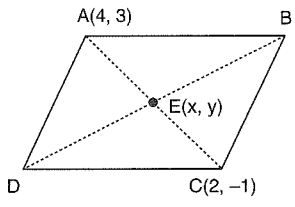
14.



ABCD paralelkenar
ABCD parallelogram
⇒ D(x, y) = ?

A) (1, 0) B) (–1, 2) C) (0, 2)
D) (–2, 0) E) (2, 1)

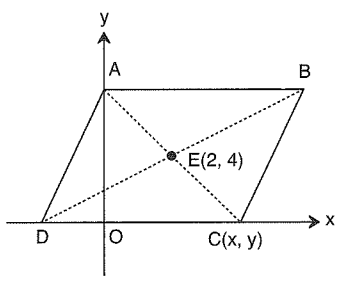
15.



ABCD paralelkenar
ABCD parallelogram
⇒ E(x, y) = ?

A) (3, 0) B) (3, 1) C) (1, 0)
D) (2, 2) E) (3, –1)

16.



ABCD paralelkenar
ABCD parallelogram
⇒ C(x, y) = ?

A) (3, 0) B) (4, 0) C) (6, 0)
D) (8, 0) E) (10, 0)

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

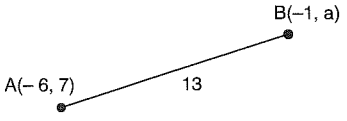
www.ztcprep.com

1. Analitik düzlemde A(k – 2, k + 6) noktasının II. Bölgede olması için k hangi aralıkta olmalıdır?

In order to be the A(k – 2, k + 6) point at the II.nd. Sector in the analytical plain, in which range has to be the k value?

A) $k > 2$ B) $k < -6$ C) $-6 < k < 2$ D) $-2 < k < 6$ E) $-8 < k < 8$

2.



$|AB| = 13$ br

$\Rightarrow \sum a = ?$

A) 14 B) 12 C) 8 D) 7 E) 5

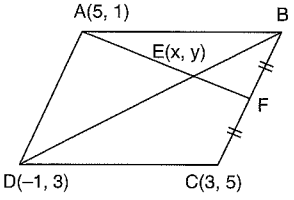
3. A(2a + 3b, 1), B(4, a + 2b)

[AB] nin orta noktası orjin olduğuna göre, |AB| uzunluğu kaç br dir?

Since A(2a + 3b, 1) and B(4, a + 2b) is the origin at the center point of AB, then how many unit is the length of [AB]?

A) $\sqrt{17}$ B) $2\sqrt{17}$ C) $3\sqrt{17}$ D) $6\sqrt{17}$ E) $5\sqrt{17}$

4.



ABCD paralelkenar

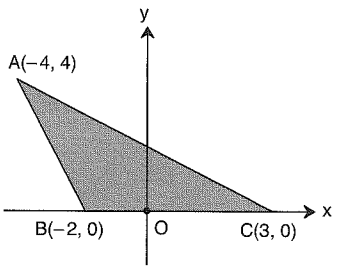
ABCD parallelogram

$|BF| = |FC|$

$\Rightarrow E(x, y) = ?$

A) (2, 3) B) $\left(\frac{17}{3}, 3\right)$ C) $\left(\frac{8}{3}, 3\right)$ D) $\left(\frac{17}{3}, 2\right)$ E) $\left(\frac{8}{3}, 2\right)$

5.



$\Rightarrow A(ABC) = ?$

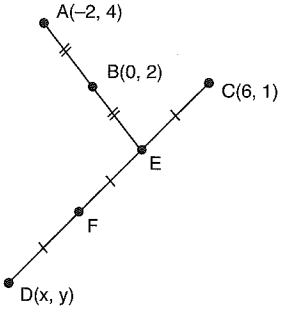
A) 20 B) 16 C) 12 D) 10 E) 4

6. A(0, 1) ve B(3, 2) noktalarına eşit uzaklıkta ve x ekseni üzerinde olan noktanın apsisi (x) kaçtır?

How many unit is the abscissa (x) of a point that has the same distance to A(0, 1) and B(3, 2) points and is placed at the x axis?

A) –2 B) –1 C) 0 D) 1 E) 2

7.



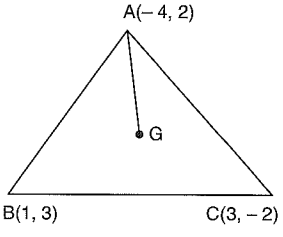
$|AB| = |BE|$

$|CE| = |EF| = |FD|$

$\Rightarrow D(x, y) = ?$

A) (– 8, – 2) B) (– 6, – 1) C) (– 8, 0) D) (– 6, 0) E) (– 6, – 2)

8.



G, ABC üçgeninin ağırlık merkezi

G, the center of gravity of ABC triangle

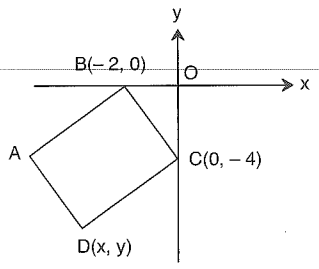
$\Rightarrow |AG| = ?$

A) $\sqrt{39}$ B) 5 C) $\sqrt{17}$ D) 4 E) $\sqrt{10}$

PUZA YAYINLARI

www.ztcprep.com

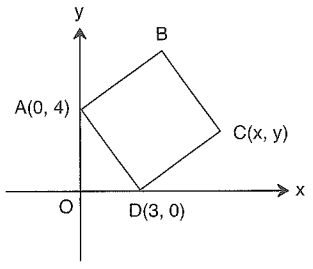
9.



ABCD dikdörtgen
ABCD rectangle
A(ABCD) = 40 br²
⇒ D(x, y) = ?

A) (8, 8) B) (– 2, – 6) C) (– 6, – 8)
D) (– 4, – 8) E) (– 8, – 8)

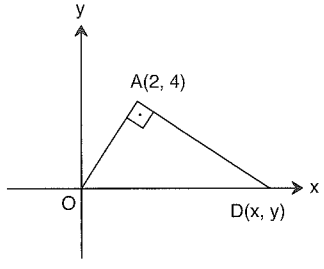
10.



ABCD kare
ABCD square
⇒ C(x, y) = ?

A) (5, 3) B) (4, 8) C) (7, 3)
D) (6, 4) E) (7, 8)

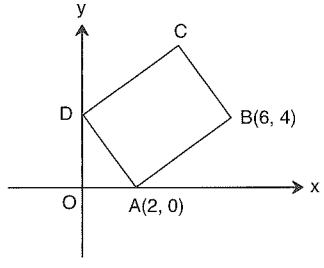
11.



[OA] ⊥ [AD]
⇒ D(x, y) = ?

A) (6, 0) B) (8, 0) C) (10, 0)
D) (12, 0) E) (14, 0)

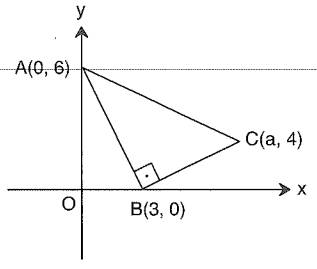
12.



ABCD dikdörtgen
ABCD rectangle
⇒ A(ABCD) = ?

A) 24 B) 18 C) 16 D) 15 E) 12

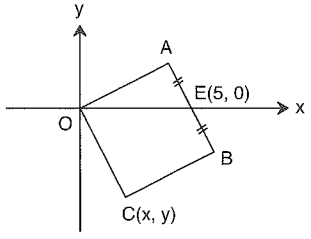
13.



[AB] ⊥ [BC]
⇒ a = ?

A) 13 B) 11 C) 8 D) 7 E) 5

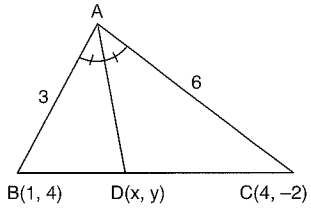
14.



OABC kare
OABC square
|AE| = |EB|
⇒ C(x, y) = ?

A) (1, – 2) B) (2, – 4) C) (2, – 2)
D) (– 4, – 2) E) $(\sqrt{5}, -2\sqrt{5})$

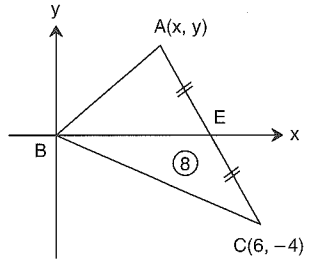
15.



$m(\widehat{BAD}) = m(\widehat{DAC})$
2|AB| = |AC| = 6 br
⇒ D(x, y) = ?

A) (2, 0) B) (3, 0) C) (4, 1)
D) (2, 2) E) (2, – 2)

16.



|AE| = |EC|
A(BEC) = 8 br²
⇒ A(x, y) = ?

A) (2, 2) B) (2, 4) C) (4, 2)
D) (4, 4) E) (4, 6)

PUZA YAYINLARI

www.ztcprep.com

1. d: $2x - 4y + 5 = 0$

$\Rightarrow m = ?$

A) -2 B) $-\frac{1}{2}$ C) 1 D) $\frac{1}{2}$ E) 2

2. d: $2y - 6x - 5 = 0$

$\Rightarrow m = ?$

A) -3 B) $-\frac{1}{3}$ C) 1 D) $\frac{1}{3}$ E) 3

3. d: $y = 2x - 4$

$\Rightarrow m = ?$

A) -2 B) $-\frac{1}{2}$ C) 1 D) $\frac{1}{2}$ E) 2

4. A(2, 3) B(−4, 1) $\Rightarrow m_{AB} = ?$

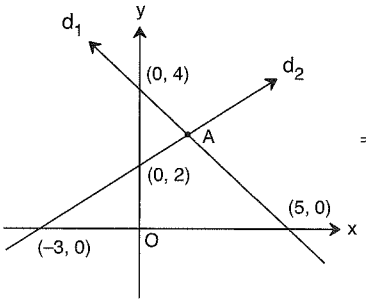
A) -3 B) $-\frac{1}{3}$ C) 1 D) $\frac{1}{3}$ E) 3

5. A(2, 1) B(3, a) $m_{AB} = 5$

$\Rightarrow a = ?$

A) 8 B) 6 C) 5 D) 4 E) 3

6.



$\Rightarrow m_1 + m_2 = ?$

A) $-\frac{8}{15}$ B) $-\frac{4}{15}$ C) $-\frac{2}{15}$ D) $\frac{2}{15}$ E) $\frac{8}{15}$

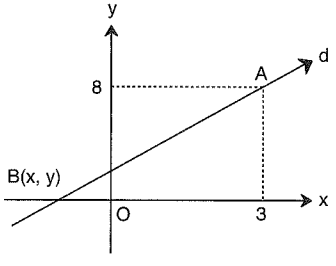
7. x ekseni ile pozitif yönde 45° açı yapan d doğrusu A(2, 1) ve B(5, a) noktasından geçtiğine göre,

Since a d line that makes a 45° angle with the x axis at the positive direction passes through the A(2, 1) and B(5, a) points

$\Rightarrow a = ?$

A) 5 B) 4 C) 3 D) 2 E) 1

8.



$m_d = 2$

$\Rightarrow B(x, y) = ?$

A) (− 4, 0) B) $\left(-\frac{5}{2}, 0\right)$ C) (− 1, 0)

D) (− 5, 0) E) $\left(-\frac{1}{2}, 0\right)$

PUZA YAYINLARI

www.ztcprep.com

9. A(1, 2), d

$m_d = 2$

$d : ax + by + c = 0$

$\Rightarrow d = ?$

A) $y = 2x$
B) $y = 2x - 4$
C) $y = 2x + 6$
D) $x - 2y + 6 = 0$
E) $6x - 2y - 5 = 0$

10. A(–2, 3), d

$m_d = 4$

$d: ax + by + c = 0$

$\Rightarrow d = ?$

A) $y + 2x - 5 = 0$
B) $y - 3x + 4 = 0$
C) $y - 3x - 9 = 0$
D) $y - 3x + 3 = 0$
E) $y - 4x - 11 = 0$

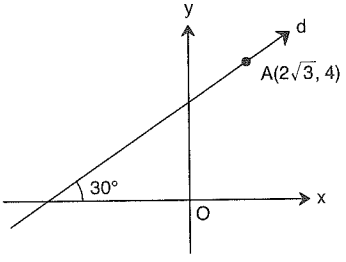
11. A(3, –2), B(1, –4), d

$d : ax + by + c$

$\Rightarrow d = ?$

A) $y + x - 4 = 0$
B) $x - y - 6 = 0$
C) $y - x + 5 = 0$
D) $2x - y + 6 = 0$
E) $y - x - 1 = 0$

12.

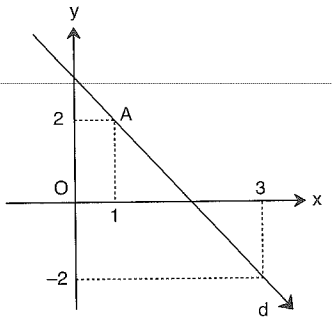


$d: ax + by + c = 0$

$\Rightarrow d = ?$

A) $y\sqrt{3} - x + 2\sqrt{3} = 0$
B) $y\sqrt{3} - x - 2\sqrt{3} = 0$
C) $y - \sqrt{3}x = 0$
D) $\sqrt{3}x + y = 0$
E) $\sqrt{3}x - y + 4 = 0$

13.

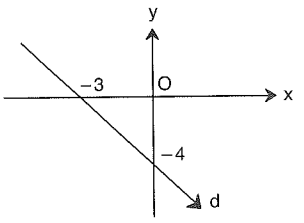


$d: ax + by + c = 0$

$\Rightarrow d = ?$

A) $y + 2x = 0$
B) $y + 2x - 4 = 0$
C) $2y - x - 2 = 0$
D) $y + 2x + 4 = 0$
E) $2x - y - 6 = 0$

14.

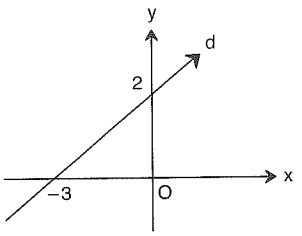


$d: ax + by + c = 0$

$\Rightarrow d = ?$

A) $4x - 3y + 12 = 0$
B) $3x + 4y - 12 = 0$
C) $4x + 3y + 12 = 0$
D) $4x + 3y + 24 = 0$
E) $3x + 4y + 24 = 0$

15.



$d: ax + by + c = 0$

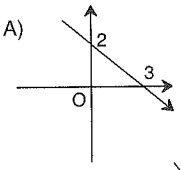
$\Rightarrow d = ?$

A) $3y - 2x + 12 = 0$
B) $2x - 3y - 6 = 0$
C) $2x + 3y - 6 = 0$
D) $3x + 2y - 6 = 0$
E) $2x - 3y + 6 = 0$

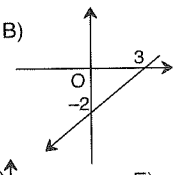
16. d: $2x - 3y + 6 = 0$ doğrusunun grafiği aşağıdakilerden hangisidir?

Which is the graph of d: $2x - 3y + 6 = 0$ line amongst the followings ones?

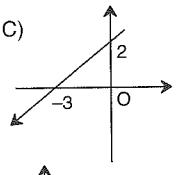
A)



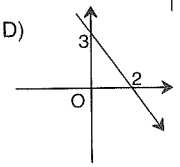
B)



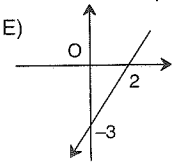
C)



D)



E)



PUZA YAYINLARI

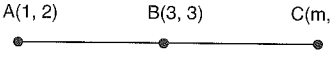
www.ztcprep.com

1. A(3, –1) ve B(k, 3) noktalarından geçen doğrunun eğim açısı 45° olduğuna göre, k kaçtır?

Since the slope angle of a line that passes the points A(3, –1) and B(k, 3) is 45°, then, how many unit is k?

A) 1 B) 3 C) 5 D) 7 E) 8

2. A(1, 2) B(3, 3) C(m, 5)



A, B, C doğrusal

A, B, C linear

$\Rightarrow m = ?$

A) 7 B) 6 C) 5 D) 4 E) 3

3. A(2, 1), B(3, m) ve C(4, n) noktalarının doğrusal olması için m ve n arasındaki bağıntı nedir?

In order to be linear the points A(2, 1), B(3, m) and C(4, n) what is the relation between m and n?

A) $n = 2m - 1$ B) $n = 2m + 1$ C) $m = 2n - 1$
D) $n = m + 1$ E) $m = 2n + 1$

4. A(2, –1) noktasından geçen $ax - 3y + 2 = 0$ doğrusunun eğimi nedir?

What is the slope of the line with an equation of $ax - 3y + 2 = 0$ which intersects the A(2, –1) point?

A) $-\frac{5}{8}$ B) $-\frac{5}{6}$ C) 1 D) $\frac{3}{2}$ E) $\frac{5}{2}$

5. $\frac{2x}{3} - \frac{y}{2} = 3$ doğrusunun eğimi nedir?

What is the slope of the line $\frac{2x}{3} - \frac{y}{2} = 3$?

A) $-\frac{4}{3}$ B) $-\frac{3}{4}$ C) 1 D) $\frac{3}{4}$ E) $\frac{4}{3}$

6. $2x + 3y + 5 = 0$ doğrusu üzerinde apsisi ordinatına eşit olan noktadan ve orijinden geçen doğru denklemi nedir?

What is the equation of a line which passes through a point, equals to the abscissa at the $2x + 3y + 5 = 0$ line and also passes through the origin?

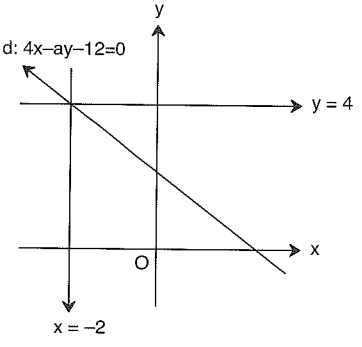
A) $y - x + 2 = 0$ B) $y - x = 0$ C) $y + x = 0$
D) $y - 2x = 0$ E) $y + 3x = 0$

7. A(a, 2) ve B(1, – a) noktalarından geçen ve x ekseni ile pozitif yönde 135° açı yapan doğru denklemi nedir?

A(a, 2) and B(1, –a) with the x-axis positive direction through the points 135° the equation is the angle?

A) $y + x - 3 = 0$ B) $y - x = 0$
C) $y + x = 0$ D) $2y + 2x - 3 = 0$
E) $y + 3x = 0$

8.



$\Rightarrow m_d = ?$

A) $\frac{3}{5}$ B) $-\frac{3}{5}$ C) –1 D) $-\frac{4}{5}$ E) $-\frac{7}{4}$

PUZA YAYINLARI

www.ztcprep.com

9. $d_1: 2x - 4y + 5 = 0$ $\quad d_1 \,//\, d_2$
$d_2: 3x + ay - 4 = 0$ $\quad \Rightarrow a = ?$

A) -6 B) -3 C) -1 D) 1 E) 3

10. $d_1: 2x - y + 3 = 0$ doğrusuna paralel olan ve (3, 1) noktasından geçen doğru denklemi nedir?

What is the equation of a line that is parallel to $d_1: 2x - y + 3 = 0$ line and intersects the point (3, 1)?

A) $2x + y - 5 = 0$ B) $2x - y - 5 = 0$
C) $2x - y + 10 = 0$ D) $2x - y - 10 = 0$
E) $4x - 2y - 5 = 0$

11. Pozitif yönde x ekseni ile 45° açı yapan d_1 doğrusuna paralel olan ve (0, –2) noktasından geçen denklemi nedir?

What is the equation of a line that makes a 45° angle to the x axis at the positive direction, that is parallel to d_1 line and intersects the (0, –2) point?

A) $x - y + 4 = 0$ B) $y - x - 3 = 0$
C) $x - y - 2 = 0$ D) $2x - y - 2 = 0$
E) $x - 2y - 4 = 0$

12. $d_1: x + ay - 4 = 0$ $\quad d_1 \perp d_2$
$d_2: 3x - 2y + 3 = 0$ $\quad \Rightarrow a = ?$

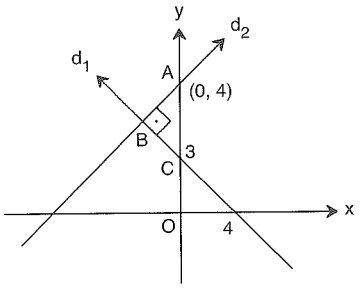
A) $\frac{3}{2}$ B) 1 C) $\frac{2}{3}$ D) $-\frac{2}{3}$ E) $-\frac{3}{2}$

13. $d_1: 3x - y + 4 = 0$ doğrusuna dik olan ve (3, 0) noktasından geçen doğru denklemi nedir?

What is the equation of a line that is perpendicular to the $d_1: 3x - y + 4 = 0$ line and intersects the point (3, 0)?

A) $y = 2x - 9$ B) $y = x - 3$ C) $y = 2x - 3$
D) $y = 3x + 1$ E) $3y + x - 3 = 0$

14.



$[AB] \perp [BC]$
$\Rightarrow d_2 = ?$

A) $2y - 3x - 1 = 0$ B) $y - 2x - 6 = 0$
C) $x - y + 1 = 0$ D) $x - y + 2 = 0$
E) $3y - 4x - 12 = 0$

15. $d_1: 2x - y + 5 = 0$
$d_2: 3x + 2y + 4 = 0$
d_1 ve d_2 doğrularının kesim noktasını bulunuz?

Find the intersecting point of d_1 and d_2 lines?

A) $(-2, 1)$ B) $(2, 1)$ C) $(-2, -1)$
D) $(1, -2)$ E) $(-1, 2)$

16. $d_1: x + 2y - 6 = 0$
$d_2: 2x - 3y + 2 = 0$
$d_3: ax + 4y - 12 = 0$
Doğruları sabit bir noktadan geçtiğine göre d_3 doğrusunun eğimi nedir?

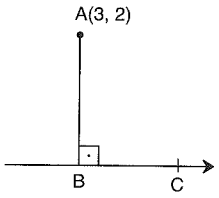
While the d_1, d_2 and d_3 lines pass through a constant point, what is the slope of the d_3 line?

A) $-\frac{1}{4}$ B) $-\frac{1}{2}$ C) 1 D) $\frac{1}{2}$ E) $\frac{1}{4}$

PUZA YAYINLARI

www.ztcprep.com

1.

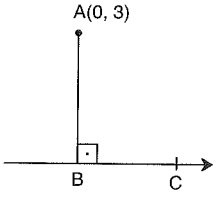


[AB] ⊥ [BC]

⇒ |AB| = ?

A) $\frac{19}{5}$ B) 3 C) $\frac{12}{5}$ D) $\frac{4}{5}$ E) $\frac{3}{5}$

2.

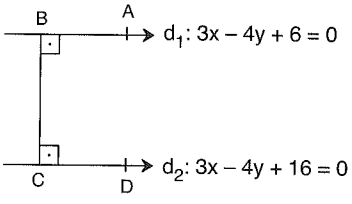


[AB] ⊥ [BC]

⇒ |AB| = ?

A) 8 B) 6 C) 4 D) 2 E) 1

3.



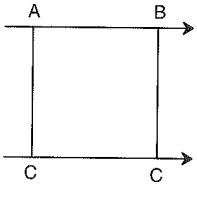
[AB] ⊥ [BC]

[BC] ⊥ [CD]

⇒ |BC| = ?

A) 6 B) 5 C) 4 D) 2 E) 1

4.



ABCD kare

ABCD square

⇒ A(ABCD) = ?

A) 1 B) 4 C) 9 D) 16 E) 25

5. d_1: 2x – 3y + 14 = 0 $d_1 \,//\, d_2$

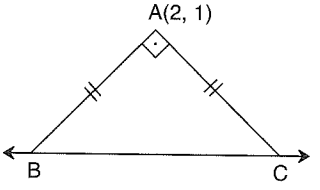
d_2: mx – 6y + 2 = 0

Bu iki doğru arasındaki uzaklık kaç br'dir?

How many unit is the distance between these two lines?

A) $2\sqrt{13}$ B) $\sqrt{13}$ C) $\frac{2\sqrt{13}}{3}$ D) $2\sqrt{3}$ E) $\frac{\sqrt{3}}{2}$

6.



[BA] ⊥ [AC]

|AB| = |AC|

⇒ A(ABC) = ?

A) 4 B) 9 C) 16 D) 25 E) 36

7. A(1, 2) noktasının $y = \frac{2}{3}x + 1$ doğrusuna olan uzaklığı kaç br'dir?

How many unit is the distance of A(1, 2) point to $y = \frac{2}{3}x + 1$ *line?*

A) $\frac{\sqrt{13}}{2}$ B) $\frac{4\sqrt{13}}{13}$ C) $\frac{\sqrt{13}}{4}$ D) $\frac{3\sqrt{13}}{13}$ E) $\frac{\sqrt{13}}{13}$

8. $\left.\begin{matrix} 3x-4y+2=0 \\ 4x+3y-6=0 \end{matrix}\right\}$

Doğrularına eşit uzaklıkta bulunan doğru denklemlerinden biri aşağıdakilerden hangisidir?

Which one of the followings is the one of equations of the line that is the same distance to the lines?

A) 7x – y – 6 = 0 B) 7x + y – 4 = 0

C) x – y + 4 = 0 D) x + y – 6 = 0

E) 7x – y – 4 = 0

PUZA YAYINLARI

www.ztcprep.com

9. $d_1: x + 2y - 4 = 0$
$d_2: 3x - y + 4 = 0$
Doğruları arasındaki dar açının tanjantı kaçtır?
What is the tangential of the acute angle between the lines?

A) -7 B) -3 C) $\frac{3}{2}$ D) 3 E) 7

10. $d_1: x - y + 4 = 0$
$d_2: -\sqrt{3}x + y - 4 = 0$
Doğruları arasındaki geniş açı kaçtır?
What is the measure of the obtuse angle between the lines?

A) 165° B) 150° C) 135° D) 120° E) 110°

11. $d_1: y + x = 0$
$d_2: y + \sqrt{3}x + 5 = 0$
Doğruları arasındaki dar açı kaçtır?
What is the tangential of the acute angle between the lines?

A) 15° B) 30° C) 45° D) 60° E) 75°

12. $d_1: ax + y + 4 = 0$
$d_2: 2x - y + 1 = 0$
Doğruları arasındaki dar açının tanjantı 2 olduğuna göre a'nın alacağı değer aşağıdakilerden hangisidir?
While the tangential of the acute angle between the lines is 2, which one of the following can "a" take as a value?

A) -3 B) $-\frac{4}{3}$ C) 1 D) 2 E) $\frac{5}{2}$

13. $x(2k + 3) + y(k - 2) + 6 - 3k = 0$
Doğrularının kesim noktasını bulunuz?
Find the intersecting point of the lines?

A) $\left(\frac{1}{7}, 0\right)$ B) (0, 1) C) (0, 3)
D) $\left(\frac{1}{7}, 2\right)$ E) $\left(\frac{1}{7}, -2\right)$

14. $(k + 1)x + (k - 2)y + k - 3 = 0$
Doğrularının kesim noktası ve orijinden geçen doğru denklemi aşağıdakilerden hangisidir?
Which one of the following is the equation of line that passes through the origin and the intersecting / breakpoint of lines?

A) $y - 4x = 0$ B) $y + 2x = 0$ C) $x - 4y = 0$
C) $x + 3y = 0$ E) $y + 4x = 0$

15. $3x - 4y + 3 = 0$ ve $4x + 3y - 2 = 0$ doğrularının açıortay denklemlerinden birinin denklemi aşağıdakilerden hangisidir?
Which one of the following is the equation of angle bisector equations of $3x - 4y + 3 = 0$ and $4x + 3y - 2 = 0$ lines?

A) $x - 7y - 6 = 0$ B) $4x - 3y + 3 = 0$
C) $7y + x - 5 = 0$ D) $y + 7x - 4 = 0$
E) $3x - 4y - 1 = 0$

16. $5x - 12y + 3 = 0$ ve $5y + 12x - 4 = 0$ doğrularının açıortay denklemlerinden birinin denklemi aşağıdakilerden hangisidir?
Which one of the following is the equation of angle bisector equations of $5x - 12y + 3 = 0$ ve $5y + 12x - 4 = 0$ lines?

A) $-17x + 7y + 1 = 0$ B) $7x - 4y + 1 = 0$
C) $5x - 12y - 1 = 0$ D) $x + y - 1 = 0$
E) $5x - 12y + 4 = 0$

PUZA YAYINLARI

www.ztcprep.com

1. x = t + 1 ve y = 2t – 4 parametrik denklemleriyle verilen noktaların analitik düzlemdeki görüntüsü nedir?

What is the image of points that are given by parametric equations x = t + 1 and y = 2t – 4 at the analytical plane?

A) 2x + y – 4 = 0
B) 4x – y + 4 = 0
C) 2x – y + 4 = 0
D) y – 2x + 6 = 0
E) y – 2x – 2 = 0

2. A(2a – 1, 3a + 2) noktalarının geometrik yer denklemi aşağıdakilerden hangisidir?

Which one of the followings is the geometrical location equation of the A(2a – 1, 3a + 2) points?

A) 2x – 5y + 4 = 0
B) 2x + 3y – 4 = 0
C) 3x – 2y + 7 = 0
D) 2x – 3y + 4 = 0
E) x + 2y – 6 = 0

3. A(1, 2) ve B(6, – 3) noktaları veriliyor. C(x, 0) noktası için min(|AC| + |BC|) yapan x değeri nedir?

A(1, 2) and B(6, – 3) points are given. What is the x value that makes min(|AC| + |BC|) for the C(x, 0) point?

A) 2 B) 3 C) 4 D) 5 E) 6

4. A(–3, 18) ve B(12, 3) noktaları veriliyor. C(x, 0) noktası için max(|AC| – |CB|) değeri nedir?

A(–3, 18) and B(12, 3) points are given. What is the value that max(|AC| – |CB|) for the C(x, 0) point?

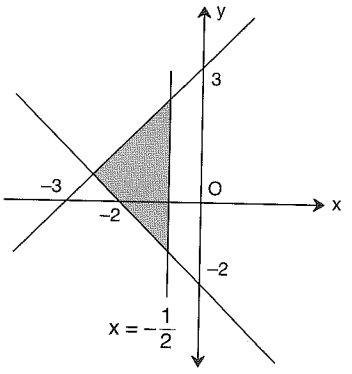
A) 10 B) 13 C) 15 D) 17 E) 20

5. A(2, 3) ve B(3, 4) noktaları veriliyor. C(x, 0) noktası için max(|BC| – |AC|) değeri nedir?

A(2, 3) and B(3, 4) points are given. What is the value that max(|BC| – |AC|) for the C(x, 0) point?

A) 1 B) $\sqrt{2}$ C) 2 D) $2\sqrt{2}$ E) 4

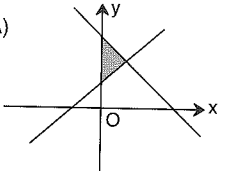
6.

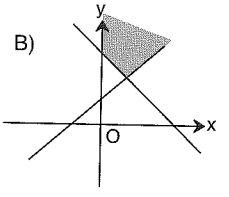


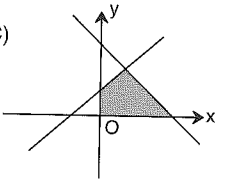
A) $x - y + 6 \geq 0$, $x - y - 2 \geq 2$, $x > -\frac{1}{2}$
B) $x - y + 3 \leq 0$, $x + y \leq 0$, $x \geq -\frac{1}{2}$
C) $x - y + 1 \geq 0$, $x + y > 3$, $x \leq 0$
D) $x - 2y + 6 \leq 0$, $x - y + 2 \geq 0$, $x \geq -1$
E) $y - x - 3 \leq 0$, $x + y + 2 \geq 0$, $x \leq -\frac{1}{2}$

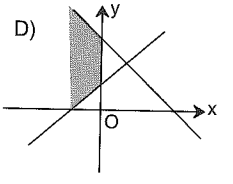
7. Analitik düzlemde y ≥ x + 2, y ≤ 4 – x ve x ≥ 0 eşitliğini sağlayan grafik aşağıdakilerden hangisidir?

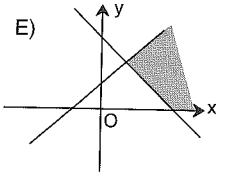
Which one of the followings is the graph that proves the y ≥ x + 2, y ≤ 4 – x and x ≥ 0 inequalities at the analytical plane?

A)


B)


C)


D)


E)


PUZA YAYINLARI

www.ztcprep.com

8. $y \le 0$, $x \ge -4$ ve $3x - y + 6 \le 0$ eşitsizlik sistemini gerçekleyen noktaların oluşturduğu bölgenin alanı kaç br^2'dir?

How many unit^2 is the surface area of the sector that proves the $y \le 0$, $x \ge -4$ and $3x - y + 6 \le 0$ inequalities?

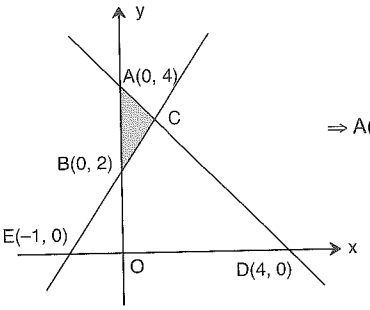
A) 6 B) 10 C) 18 D) 20 E) 24

9. Analitik düzlemde, $(y + 1)(x - 2) - xy = 0$ bağıntısı ile verilen doğru denkleminin eğimi kaçtır?

What is the slope of line equation given with the $(y + 1)(x - 2) - xy = 0$ relationship at the analytical plane?

A) -2 B) $-\frac{1}{2}$ C) 1 D) $\frac{1}{2}$ E) 2

10.



$\Rightarrow$ A(ABC) = ?

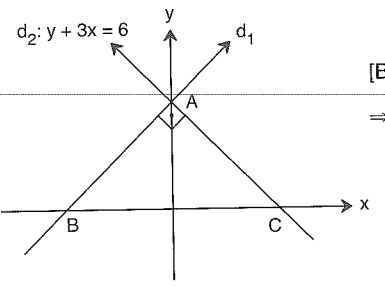
A) $\frac{4}{9}$ B) $\frac{2}{3}$ C) 1 D) 2 E) $\frac{7}{3}$

11. A(2, 3) ve B(4, 5) noktaları veriliyor. [AB] doğru parçasının orta dikme doğru denklemi nedir?

A(2, 3) and B(4, 5) points are given. What is the equation of the perpendicular bisector of AB line segment?

A) $y - x - 4 = 0$ B) $y + x - 1 = 0$
C) $y + x - 7 = 0$ D) $y + x + 1 = 0$
E) $x - y - 1 = 0$

12.

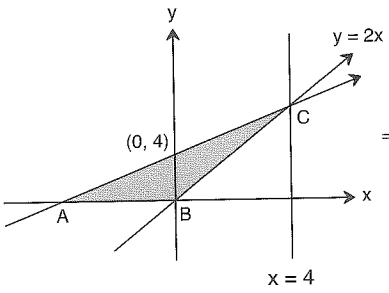


[BA] $\perp$ [AC]

$\Rightarrow d_1 = ?$

A) $y - x - 6 = 0$ B) $y - x - 18 = 0$
C) $3y + x - 6 = 0$ D) $y - 3x - 6 = 0$
E) $3y - x - 18 = 0$

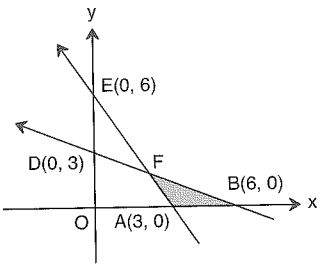
13.



$\Rightarrow$ A(ABC) = ?

A) 64 B) 32 C) 28 D) 24 E) 16

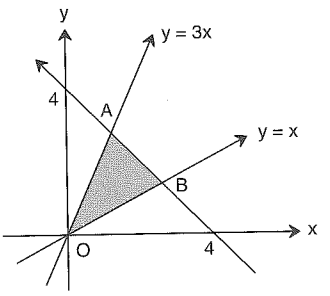
14.



$\Rightarrow$ A(AFB) = ?

A) 3 B) 4 C) 6 D) 9 E) 18

15.



$\Rightarrow$ A(AOB) = ?

A) 2 B) 4 C) 6 D) 8 E) 12

PUZA YAYINLARI

www.ztcprep.com

1. $(2-a)y + ax - a + 2 = 0$ doğrularının kesim noktasından geçen ve $2x - 4y + 5 = 0$ doğrusuna dik olan doğru denklemi nedir?

What is the equation of a line that is perpendicular to the $(2-a)y + ax - a + 2 = 0$ line and passes through the point that the lines $2x - 4y + 5 = 0$ intersect at?

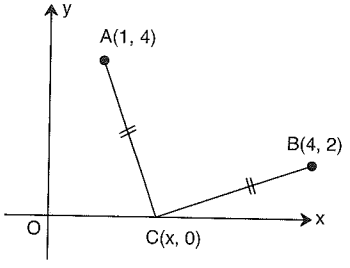
A) $2y - x - 1 = 0$ B) $y + 2x + 1 = 0$
C) $x + 2y - 1 = 0$ D) $x + 2y + 1 = 0$
E) $2y + x - 2 = 0$

2. $-y + x - 4 = 0$ ve $x + \sqrt{3}y - 6 = 0$ doğruları arasındaki açılardan bir tanesi aşağıdakilerden hangisidir?

Which one of the following is the one of angles between the $-y + x - 4 = 0$ ve $x + \sqrt{3}y - 6 = 0$ lines?

A) 120° B) 105° C) 90° D) 60° E) 25°

3.

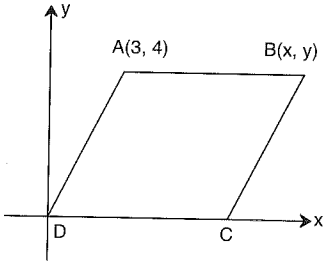


$|AC| = |CB|$

$\Rightarrow x = ?$

A) $\frac{1}{6}$ B) $\frac{1}{2}$ C) 1 D) 2 E) 3

4.



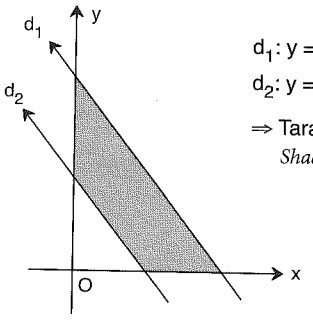
ABCD eşkenar dörtgen

ABCD rhombus

$\Rightarrow B(x, y) = ?$

A) (5, 4) B) (5, 3) C) (8, 3)
D) (8, 4) E) (10, 4)

5.



$d_1: y = -x + 8$

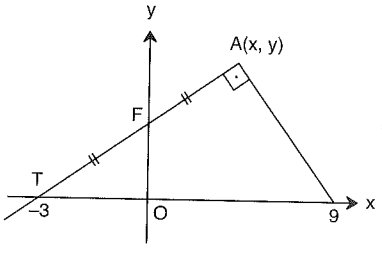
$d_2: y = -2x + 6$

$\Rightarrow$ Taralı alan kaç br^2 dir?

Shaded area = ?

A) 21 B) 23 C) 30 D) 42 E) 46

6.



$|AF| = |FT|$

$\Rightarrow x + y = ?$

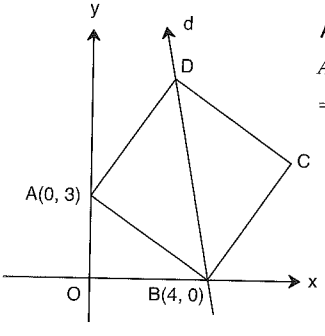
A) 12 B) 9 C) 8 D) 6 E) 4

7. $3x - 4y + 6 = 0$ ve $4x - 3y + 1 = 0$ doğrularına eşit uzaklıktaki noktaların geometrik yer denklemi nedir?

What is the geometrical location equation of the points that have the same distance to the $3x - 4y + 6 = 0$ and $4x - 3y + 1 = 0$ lines?

A) $x - y + 7 = 0$ B) $x - y + 1 = 0$
C) $x - y + 5 = 0$ D) $x - y - 1 = 0$
E) $7x - 7y + 8 = 0$

8.



ABCD kare

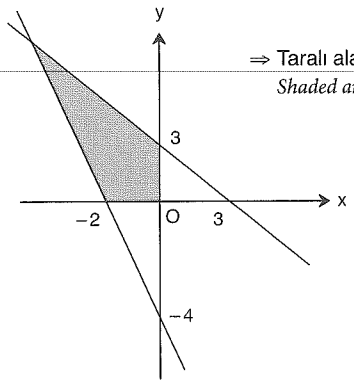
ABCD square

$\Rightarrow d: ax + by + c = ?$

A) $y - x + 4 = 0$ B) $y + x - 2 = 0$
C) $2x - y - 4 = 0$ D) $y + 7x - 28 = 0$
E) $2x - y + 2 = 0$

www.ztcprep.com

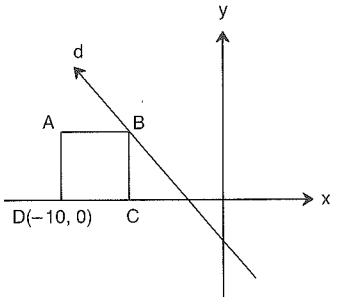
9.



⇒ Taralı alan kaç br^2 dir?
Shaded area = ?

A) 14 B) $\frac{41}{2}$ C) 22 D) $\frac{45}{2}$ E) 26

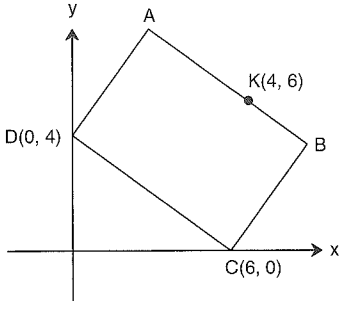
10.



ABCD kare
ABCD square
d: $\frac{x}{2}+\frac{y}{2}=-1$
⇒ A(ABCD) = ?

A) 49 B) 36 C) 25 D) 16 E) 14

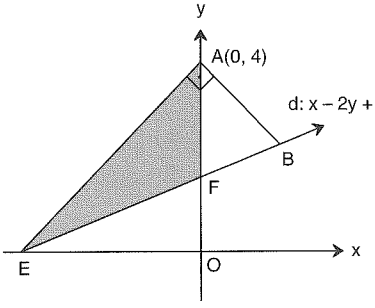
11.



ABCD dikdörtgen
ABCD regtangle
⇒ A(ABCD) = ?

A) 36 B) 32 C) 28 D) 24 E) 14

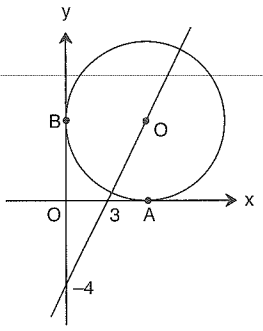
12.



[EA] ⊥ [AB]
⇒ A(AFE) = ?

A) 2 B) 4 C) 8 D) $4\sqrt{5}$ E) $8\sqrt{5}$

13.



O merkezli dairenin alanı kaç br^2 dir?
How many unit^2 is the area of the circular region with a center O?

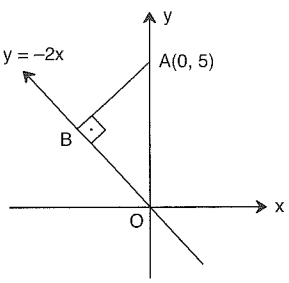
A) 169π B) 144π C) 100π D) 64π E) 36π

14. Analitik düzlemde eğimleri 3 ve $-\frac{1}{3}$ olan iki doğrunun açı-ortay doğrularından birinin eğimi aşağıdakilerden hangisi-dir?

Which one of the followings is the slope of the one of angle bisector lines that have the slope of 3 and -1/3 at the analytical plane?

A) $-\frac{1}{3}$ B) −1 C) $\frac{1}{2}$ D) 1 E) 3

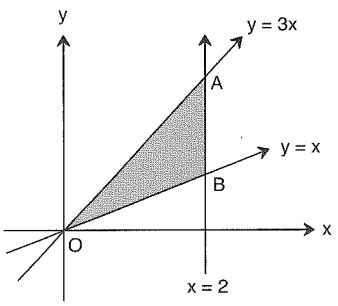
15.



[AB] ⊥ [BO]
⇒ A(ABO) = ?

A) $\frac{1}{5}$ B) $\frac{\sqrt{5}}{5}$ C) 1 D) $\sqrt{5}$ E) 5

16.



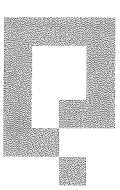
⇒ A(AOB) = ?

A) 4 B) 16 C) 32 D) 36 E) 64

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

www.ztcprep.com

ZTC زنگنه مجموعه موسسات



ANALİTİK GEOMETRİ
Yanıt Anahtarı

ANALYTIC GEOMETRY-LINE
Answer Key

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	A	A	A	B	C	A	B	C	A	C	E	B	C	A

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	E	A	A	A	D	D	E	C	D	B	E	B	A	B	B

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	A	B	B	D	E	E	C	E	C	C	C	B	B	D	B

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	E	E	D	B	C	B	C	A	E	C	B	B	C	E	C

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	A	A	B	E	B	D	D	A	B	C	A	E	E	A	B

TEST 6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	D	D	B	B	C	E	E	B	A	A	B	C	E	C	A

TEST 7

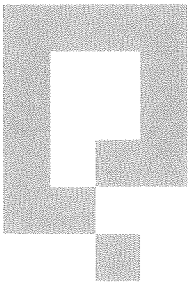
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	B	C	B	E	A	A	D	B	C	E	E	A	A	

TEST 8

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	B	B	D	B	B	B	D	B	D	C	B	B	C	E	A

www.ztcprep.com

ZTC زنگنه
مجموعه موسسات



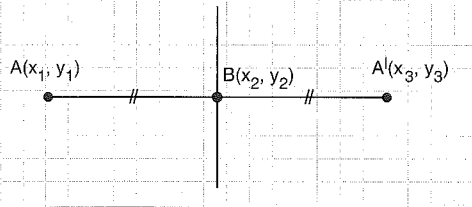
SİMETRİ
SYMMETRY

www.ztcprep.com

ÖZELLİK | Property 1

Noktanın Noktaya Göre Simetriği

Symmetry of a point as per another point:



$$\frac{x_3 + x_1}{2} = x_2 \qquad \frac{y_3 + y_1}{2} = y_2$$

1. A(3, 2) noktasının B(–1, 4) noktasına göre simetriği?

Symmetry of a point A(3, 2) as per another point B(–1, 4)?

(– 5, 6)

2. A(1, –2) noktasının B(a, b) noktasına göre simetriği olan nokta C(– 5, – 6) ise B(a, b) noktasının koordinatları nedir?

If the Symmetry of a point A(1, –2) as per another point B(a, b) is a point C(–5, –6), then what are the coordinates of point B(a, b)?

(– 2, – 4)

3. A(a, b) noktasının B(– 3, 2) noktasına göre simetriği C(– 6, 3) noktası ise A(a, b) noktasının koordinatları nedir?

If the Symmetry of a point A(a, b) as per another point B(–3, 2) is a point C(–6, 3), then what are the coordinates of point A(a, b)?

(0, 1)

ÖZELLİK | Property 2

Noktanın – *Of a point*

A(x, y) — x eksenine – *x-axis* → A′(x, – y)

A(x, y) — y eksenine – *y-axis* → A′(– x, y)

A(x, y) — orjine – *origine* → A′(– x, – y)

A(x, y) — y = x → A′(y, x)

A(x, y) — y = –x → A′(– y, – x)

göre simetrikleri

the symmetry as per

1. A(–2, 3) noktasının x eksenine göre simetriği B ve B noktasının y = x doğrusuna göre simetriği C noktası olduğuna göre,

Since the symmetry of a point A (–2, 3) as per the axis x is B, and the symmetry of a point B as per the line of y = x is point C

⇒ C(a, b) = ?

(– 3, – 2)

2. A(a, b) noktasının y = – x doğrusuna göre simetriği B ve B noktasının orijine göre simetriği C(– 4, 2) noktası olduğuna göre,

Since the symmetry of a point A (a, b) as per the line y = –x is B, and the symmetry of a point B as per the origin is point C(–4,2)

⇒ A(a, b) = ?

(2, – 4)

3. A(2, 1) noktasının x eksenine göre simetriği B ve y eksenine göre simetriği C noktası olduğuna göre,

Since the symmetry of a point A (2, 1) as per the axis x is B, and as per the axis y is point C

⇒ A(ABC) = ?

4

PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK | Property 3

- Noktanın x = a ve y = b doğrularına göre simetriği

Symmetry of a point as per the x = a and y = b lines

$A(x, y) \xrightarrow{x = a} A'(2a - x, y)$

$A(x, y) \xrightarrow{y = b} A'(x, 2b - y)$

1. A(4, 6) noktasının x = 2 doğrusuna göre simetriği olan noktanın koordinatları nedir?

What are the coordinates of the point which is the symmetry of point A(4, 6) as per the x = 2 line?

(0, 6)

2. A(–2, 4) noktasının y + 2 = 0 doğrusuna göre simetriği olan noktanın koordinatları nedir?

What are the coordinates of the point which is the symmetry of point A(–2, 4) as per the y + 2 = 0 line?

(– 2, – 8)

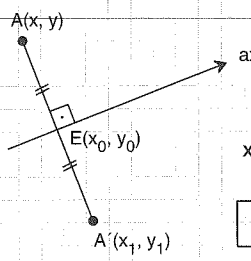
3. A(– 3, 5) noktasının y = 2 noktasına göre simetriği B ve B noktasının orijine göre simetriği C noktası olduğuna göre

Since the symmetry of a point A (–3, 5) as per the point y = 2 is B, and the symmetry of a point B as per the origin is point C

⇒ C(a, b) = ?

(3, 1)

ÖZELLİK | Property 4



$x_0 = \frac{x + x_1}{2}$, $y_0 = \frac{y + y_1}{2}$

$ax_0 + by_0 + c = 0$

$\left(\frac{y_1 - y}{x_1 - x}\right).\left(-\frac{a}{b}\right) = -1$

1. A(2, –2) noktasının 3x + 4y – 8 = 0 doğrusuna göre simetriği B noktası ise,

If the symmetry of a point A (2, –2) as per the 3x + 4y – 8 = 0 line is a point B

⇒ |AB| = ?

4

2. A(–2, 0) noktasının x + 2y – 8 = 0 doğrusuna göre simetriği olan noktanın koordinatları nedir?

What are the coordinates of the point which is the symmetry of point A(–2, 0) as per the x + 2y – 8 = 0 line?

(2, 8)

3. A(1, 4) noktasının d: ax + by + c = 0 doğrusuna göre simetriği olan nokta B(4, 8) noktası ise A noktasının d doğrusuna olan en kısa uzaklığını bulunuz?

If the symmetry of a point A(1, 4) as per the d: ax + by + c = 0 line is a point B (4, 8), then find the shortest distance of point A to d line?

$\frac{5}{2}$

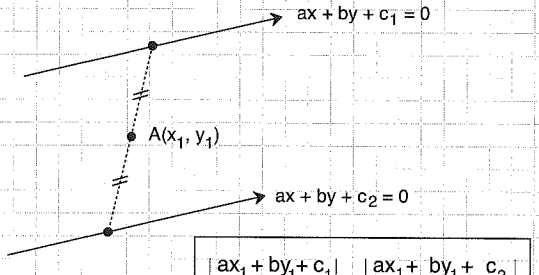
PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK|Property 5

d: ax + by + c = 0 doğrusunun $A(x_1, y_1)$ noktasına göre simetriği

Symmetry of a d: $ax + by + c_1 = 0$ line as per the point $A(x_1, y_1)$



$$\frac{|ax_1 + by_1 + c_1|}{\sqrt{a^2 + b^2}} = \frac{|ax_1 + by_1 + c_2|}{\sqrt{a^2 + b^2}}$$

1. 3x – 2y + 6 = 0 doğrusunun A(2, 4) noktasına göre simetriği olan doğru nedir?

What is the line which is the symmetry of a 3x – 2y + 6 = 0 line as per the point A(2, 4)?

3x – 2y – 2 = 0

2. x + 3y – 6 = 0 doğrusunun A(1, 0) noktasına göre simetriği olan doğru nedir?

What is the line which is the symmetry of a x + 3y – 6 = 0 line as per the point A(1, 0)?

x + 3y + 4 = 0

3. y – x + 4 = 0 doğrusunun A(0, 0) noktasına göre simetriği olan doğru nedir?

What is the line which is the symmetry of a y – x + 4 = 0 line as per the point A(0, 0)?

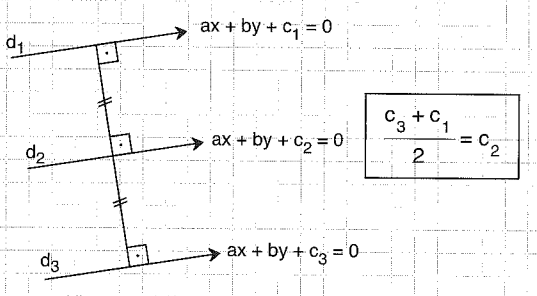
y – x – 4 = 0

ÖZELLİK|Property 6

- d_1: ax + by + c_1 = 0 doğrusunun
  d_2: ax + by + c_2 = 0 doğrusuna göre simetriği
  d_3: ax + by + c_3 = 0 doğrusudur.

Smmetry of a d_1: $ax + by + c_1 = 0$ line as per the d_2: $ax + by + c_2 = 0$ line is the d_3: $ax + by + c_3 = 0$ line

$(d_1 // d_1)$



$$\frac{c_3 + c_1}{2} = c_2$$

1. d_1: 3x – 4y + 6 = 0

d_2: 3x – 4y + 10 = 0

d_1 doğrusunun d_2 doğrusuna göre simetriği olan doğru nedir?

What is the line which is the symmetry of the d_1 line as per the d_2 line?

3x – 4y + 14 = 0

2. d_1: 2x – 4y + 5 = 0

d_2: 2x – 4y + 7 = 0

d_1 doğrusunun d_2 doğrusuna göre simetriği olan doğru nedir?

What is the line which is the symmetry of the d_1 line as per the d_2 line?

2x – 4y + 9 = 0

3. d_1: x – 3y + 5 = 0

d_2: 6y – 2x – 8 = 0

d_1 doğrusunun d_2 doğrusuna göre simetriği olan doğru nedir?

What is the line which is the symmetry of the d_1 line as per the d_2 line?

x – 3y + 3 = 0

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK|Property 7

Doğrunun – *Of a line*

ax + by + c = 0	x eksenine – *x-axis* →	ax – by + c = 0
ax + by + c = 0	y eksenine – *y-axis* →	–ax + by + c = 0
ax + by + c = 0	orjine – *origine* →	–ax – by + c = 0
ax + by + c = 0	y = x →	bx + ay + c = 0
ax + by + c = 0	y = – x →	– bx – ay + c = 0

göre simetrikleri
the symmetry as per

1. $2x - 3y + 5 = 0$ doğrusunun $y = x$ doğrusuna göre simetriği olan doğru nedir?

What is he line that is symmetry of a $2x - 3y + 5 = 0$ *line as per the* $y = x$ *line?*

$-3x + 2y + 5 = 0$

2. $d_1: x - 2y + 4 = 0$ doğrusunun orijine göre simetriği olan doğru d_2, d_2 doğrusunun $y = -x$ doğrusuna göre simetriği olan doğru d_3 doğrusudur.

The line that is the symmetry of a $d_1: x - 2y + 4 = 0$ *line as per the origin is* d_2, *the symmetry of a line* d_2 *as per the* $y = -x$ *line is* d_3 *line.*

$\Rightarrow d_3 = ?$

$-2x + y + 4 = 0$

3. $d_1: 2x + 4y - 6 = 0$ doğrusunun orijine göre simetriği d_2, d_2 doğrusuna paralel olan ve (2, 0) noktasından geçen doğru denklemi nedir?

What is the equation of a line that is parallel to d_2 *line that is the symmetry of a* $d_1: 2x + 4y - 6 = 0$ *line as per the origin and intersects the point (2, 0)?*

$x + 2y - 2 = 0$

ÖZELLİK|Property 8

d_1 doğrusunun d_2 doğrusuna göre simetriği

$d_1: a_1 x + b_1 y + c_1 = 0$

$d_2: a_2 x + b_2 y + c_2 = 0$

symmetry of a $d_1: a_1 x + b_1 y + c_1 = 0$ *line as per the* $d_2: a_2 x + b_2 y + c_2 = 0$ *line*

$$a_1x + b_1y + c_1 + k(a_2x + b_2y + c_2) = 0$$

$$k = -2 \cdot \frac{a_1a_2 + b_1b_2}{a_2^2 + b_2^2}$$

1. $d_1: 2x - y + 5 = 0$ doğrusunun

$d_2: 3x + y + 4 = 0$ doğrusuna göre simetriği nedir?

What is the symmetry of a $d_1: 2x - y + 5 = 0$ *line as per the* $d_2: 3x + y + 4 = 0$ *line?*

$x + 2y - 1 = 0$

2. $d_1: x - y + 4 = 0$ doğrusunun

$d_2: 2x + y - 2 = 0$ doğrusuna göre simetriği nedir?

What is the symmetry of a $d_1: x - y + 4 = 0$ *line as per the* $d_2: 2x + y - 2 = 0$ *line?*

$x - 7y + 24 = 0$

3. $d_1: x + 3y - 1 = 0$ doğrusunun

$d_2: x + y - 2 = 0$ doğrusuna göre simetriği nedir?

What is the symmetry of a $d_1: x + 3y - 1 = 0$ *line as per the* $d_2: x + y - 2 = 0$ *line?*

$3x + y - 7 = 0$

PUZA YAYINLARI

www.ztcprep.com

1. A(2, 3) noktasının B(1, – 3) noktasına göre simetriği olan nokta C(x, y)'dir.

Symmetry of a point A(2, 3) as per another point B(1, –3) is point C (x, y).

⇒ C(x, y) = ?

A) (0, – 6) B) $\left(\frac{3}{2}, 0\right)$ C) (0, – 9)
D) (3, 0) E) (3, 9)

2. A(– 2, 4) noktasının B(a, b) noktasına göre simetriği olan nokta C(0, 0)'dır.

Symmetry of a point A(–2, 4) as per another point B(a, b) is point C (0, 0).

⇒ B(a, b) = ?

A) (– 1, 2) B) (– 4, 8) C) (2, – 4)
D) (2, 6) E) (– 1, 0)

3. A(–2, 3) noktasının x eksenine göre simetriği B, B noktasının y = x doğrusuna göre simetriği C(x, y) noktasıdır.

The symmetry of a point A (–2, 3) as per the axis x is B, and the symmetry of a point B as per the line of y = x is point C(x, y).

⇒ C(x, y) = ?

A) (3, 2) B) (– 3, 2) C) (– 2, – 3)
D) (-- 3, – 2) E) (2, – 3)

4. A(a, b) noktasının orijine göre simetriği B, B noktasının y = – x doğrusuna göre simetriği C(– 4, 7) noktasıdır.

The symmetry of a point A (a, b) as per the origin is B, and the symmetry of a point B as per the line of y = –x is point C(–4, 7).

⇒ A(a, b) = ?

A) (– 7, – 4) B) (7, – 4) C) (7, 4)
D) (4, – 7) E) (5, 7)

5. A(– 4, 5) noktasının y eksenine göre simetriği olan nokta ax + y – 4 = 0 doğrusu üzerinde ise,

If the Symmetry of a point A(–4, 5) as per the axis y is the point on the ax + y – 4 line,

⇒ a = ?

A) $-\frac{1}{4}$ B) $-\frac{1}{2}$ C) $\frac{1}{2}$ D) 1 E) $\frac{1}{4}$

6. A(– 3, 4) noktası y = x doğrusuna göre simetriği B, x eksenine göre simetriği C noktası ise,

If the symmetry of a point A (–3, 4) as per the y = x line is B, and as per the axis x is point C,

⇒ A(ABC) = ?

A) 16 B) 28 C) 32 D) 40 E) 48

7. A(– 5, 6) noktasının B(– 3, 3) noktasına göre simetriği C, C noktasının orijine göre simetriği D(x, y) noktası ise,

If the symmetry of a point A(–5, 6) as per the point B(–3, 3) is C, and the symmetry of a point C as per the origin is point D(x, y)

⇒ D(x, y) = ?

A) (0, –1) B) (1, 0) C) (–1, 2)
D) (1, –2) E) (2, 1)

8. A(a, b) noktasının x eksenine göre simetriği B, B noktasının orijine göre simetriği C(3a – 4, 2b – 2) noktası ise,

If the symmetry of a point A(a, b) as per the axis x is B, and the symmetry of a point B as per the origin is point C(3a – 4, 2b – 2),

⇒ a + b = ?

A) 2 B) 3 C) 4 D) 6 E) 8

PUZA YAYINLARI

www.ztcprep.com

9. A(4, 3) noktasının x = 6 doğrusuna göre simetriği B(x, y) noktası ise,

If the symmetry of point A(4, 3) as per the line x = 6 is point B(x, y),

⇒ B(x, y) = ?

A) (6, 3) B) (4, 9) C) (8, 3) D) (10, 3) E) (14, 3)

10. A(–2, 3) noktasının y – 3 = 0 doğrusuna göre simetriği B(x, y) noktası ise,

If the symmetry of point A(–2, 3) as per the line y – 3 = 0 is point B(x, y),

⇒ B(x, y) = ?

A) (– 2, 6) B) (8, 3) C) (– 4, 3) D) (– 2, 3) E) (3, – 2)

11. A(5, 1) noktasının x eksenine göre simetriği B, B noktasının x + 3 = 0 doğrusuna göre simetriği C(x, y) noktası ise,

If the symmetry of a point A (5, 1) as per the axis x is B, and the symmetry of a point B as per the x + 3 = 0 line is point C (x, y)

⇒ x + y = ?

A) –14 B) –12 C) –10 D) – 8 E) – 6

12. A(–2, 3) noktasının y = –x doğrusuna göre simetriği B, B noktasının x – 2 = 0 doğrusuna göre simetriği C, C noktasının y eksenine göre simetriği D(a, b) noktası ise,

If the symmetry of a point A(–2, 3) as per the y = –x line is B, and the symmetry of a point B as per the x – 2 = 0 line is C, and the symmetry of point C as per the axis y is the point D (a, b),

⇒ a + b = ?

A) – 9 B) – 5 C) 3 D) 7 E) 9

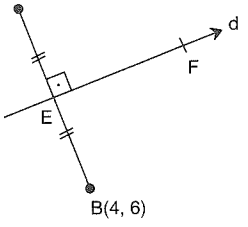
13. A(2, 4) noktasının 3x – 4y = 0 doğrusuna göre simetriği olan nokta B noktası ise,

If the symmetry of point A(2, 4) as per the line 3x – 4y = 0 is the point B,

⇒ |AB| = ?

A) 2 B) 4 C) 6 D) 8 E) 10

14. A(2, 3)



[AB] ⊥ d

|AE| = |EB|

⇒ |AE| = ?

A) 13 B) $\frac{13}{2}$ C) $\sqrt{13}$ D) $\frac{\sqrt{13}}{2}$ E) 2

15. A(3, 5) noktasının x – y + 6 = 0 doğrusuna göre simetriği olan nokta B(a, b) ise,

If the symmetry of point A(3, 5) as per the line x – y + 6 = 0 is the point B(a, b),

⇒ B(a, b) = ?

A) (– 3, – 5) B) (9, –1) C) (–2, 3) D) (–9, 1) E) (–1, 9)

16. A(0, 2) noktasının 2x + y – 4 = 0 doğrusuna göre simetriği olan nokta B(a, b) ise,

If the symmetry of point A(0, 2) as per the line 2x + y – 4 = 0 is the point B(a, b),

⇒ B(a, b) = ?

A) (4, – 5) B) $\left(\frac{2}{5}, \frac{4}{5}\right)$ C) $\left(\frac{8}{5}, \frac{14}{5}\right)$ D) $\left(\frac{4}{5}, \frac{14}{5}\right)$ E) (4, 5)

PUZA YAYINLARI

www.ztcprep.com

1. x – y + 6 = 0 doğrusunun
A(2, 4) noktasına göre simetriği nedir?
What is the symmetry of a x – y + 6 = 0 line as per the A(2, 4) point?

A) x – y – 2 = 0 B) x – y – 6 = 0
C) 2x – y – 2 = 0 D) x – 2y – 2 = 0
E) x – y – 4 = 0

2. 2x – y = 0 doğrusunun
A(–1, 3) noktasına göre simetriği nedir?
What is the symmetry of a 2x – y = 0 line as per the A(–1, 3) point?

A) x – y + 2 = 0 B) 2x – y + 4 = 0
C) x + y + 2 = 0 D) 2x – y + 10 = 0
E) 2x – y – 2 = 0

3. x – 2y + 6 = 0 doğrusunun
x – 2y + 10 = 0 doğrusuna göre simetriği nedir?
What is the symmetry of a x – 2y + 6 = 0 line as per the x – 2y + 10 = 0 line?

A) x – 2y + 14 = 0 B) x – 2y – 14 = 0
C) x – 2y + 28 = 0 D) x – 2y – 28 = 0
E) 2x – y – 28 = 0

4. 3x – 2y + 5 = 0 doğrusunun
– 6x + 4y – 4 = 0 doğrusuna göre simetriği nedir?
What is the symmetry of a 3x – 2y + 5 = 0 line as per the – 6x + 4y – 4 = 0 line?

A) – 6x + 4y – 1 = 0 B) 3x – 2y – 1 = 0
C) – 6x + 4y – 4 = 0 D) 3x – 2y – 2 = 0
E) 3x – 2y + 2 = 0

5. x – 2y + 5 = 0 doğrusunun
y = x doğrusuna göre simetriği nedir?
What is the symmetry of a x – 2y + 5 = 0 line as per the y = x line?

A) x – 2y + 10 = 0 B) 2x – 4y – 5 = 0
C) 2x – 4y + 5 = 0 D) y – 2x + 5 = 0
E) x – 2y – 5 = 0

6. 3x + 2y – 4 = 0 doğrusunun
y + x = 0 doğrusuna göre simetriği nedir?
What is the symmetry of a 3x + 2y – 4 = 0 line as per the y + x = 0 line?

A) 6x – 4y + 6 = 0 B) 3x + 2y + 3 = 0
C) 3x + 2y + 1 = 0 D) 3x + 2y + 6 = 0
E) 2x + 3y + 4 = 0

7. 2x + ay – 4 = 0 doğrusunun
y + x = 0 doğrusuna göre simetriği A(2, 1) noktasından geçtiğine göre,
Since the symmetry of a 2x + ay – 4 = 0 line as per the y + x = 0 line passes through the point A(2, 1)

⇒ a = ?

A) – 6 B) – 3 C) 0 D) 3 E) 6

8. 2x – y + 4 = 0 doğrusunun
x = 0 doğrusuna göre simetriği nedir?
What is the symmetry of a 2x – y + 4 = 0 line as per the x = 0 line?

A) 2x + y – 8 = 0 B) 2x + y – 4 = 0
C) 2x – y + 16 = 0 D) x + y – 8 = 0
E) x + 2y – 8 = 0

PUZA YAYINLARI

www.ztcprep.com

9. A(3, 5) noktasının y = x doğrusuna göre simetriği B, B noktasının y = –x doğrusuna göre simetriği C(a, b) ise,

If the symmetry of a point A(3, 5) as per the y = x line is B, and the symmetry of a point B as per the line of y = –x is point C(a, b),

⇒ C(a, b) = ?

A) (0, 5) B) (3, 5) C) (3, – 5)
D) (– 3, 5) E) (– 3, – 5)

10. A(2, 4) noktasının B(a, 3) noktasına göre simetriği 3x + y + 4 = 0 doğrusu üzerinde ise,

If the symmetry of a point A(2, 4) as per another point B(a, 3) is on the 3x + y + 4 = 0 line,

⇒ a = ?

A) $-\frac{8}{7}$ B) –1 C) 0 D) $\frac{8}{7}$ E) 8

11. Analitik düzlemde verilen y = mx + n doğrusunun A(1, 4) noktasına göre simetriği 2x – y + 1 = 0 doğrusu olduğuna göre,

Since the symmetry of a y = mx + n line given at the analytical plane, as per the point A(1, 4) is 2x – y + 1 = 0,

⇒ m + n = ?

A) 3 B) 4 C) 5 D) 6 E) 7

12. Analitik düzlemde verilen x + y – 4 = 0 doğrusunun A(a, b) noktasına göre simetriği x + y + 6 = 0 doğrusu ise,

Since the symmetry of a x + y – 4 = 0 line given at the analytical plane as per the point A(a, b) is x + y + 6 = 0 line,

⇒ a + b = ?

A) –1 B) 0 C) 1 D) 3 E) 6

13. A(a + 2, a – 2) noktasının y = x doğrusuna göre simetriği x ekseni üzerinde ise, A noktasının x + 2 = 0 doğrusuna göre simetriği nedir?

If the symmetry of a point A(a + 2, a – 2) as per the y = x line is on the x axis, then what is the symmetry of a point A as per the x + 2 = 0 line?

A) (1, 0) B) (1, 2) C) (4, 4)
D) (– 4, – 4) E) (– 4, – 2)

14. A(–1, 2) noktasının x = 2 doğrusuna göre simetriği B, y = 3 doğrusuna göre simetriği C noktası ise B ve C noktalarından geçen doğru denklemi nedir?

If the symmetry of a point A (–1, 2) as per the x = 2 line is B, the symmetry as per the y = 3 line is C, then what is the equation of the line that passes through the point B and C?

A) y = 2 B) y = 4 C) x = 5
D) 3x – y – 6 = 0 E) 3y + x – 11 = 0

15. x – 2y – 6 = 0, 2x + y – 5 = 0 doğrularının açıortay denklemlerinden birinin orijine göre simetriği nedir?

What is the symmetry of one of the equations of angles bisectors of the x – 2y – 6 = 0, 2x + y – 5 = 0 lines as per the origin?

A) x + 3y – 1 = 0 B) x + 3y – 2 = 0
C) x + 3y + 1 = 0 D) 2x + 3y – 2 = 0
E) 2x – 3y – 1 = 0

16. 2x + 3y – 6 = 0 doğrusunun 3x – 2y – 6 = 0 doğrusuna göre simetriği nedir?

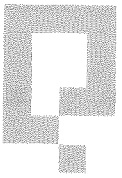
What is the symmetry of a 2x + 3y – 6 = 0 line as per the 3x – 2y – 6 = 0 line?

A) x – 5y = 0 B) 2x + 3y – 6 = 0
C) x – 5y + 6 = 0 D) x – 5y + 12 = 0
E) x + 5y – 12 = 0

PUZA YAYINLARI

www.ztcprep.com

ZTC زنگنه مجموعه موسسات



SİMETRİ SYMMETRY
Yanıt Anahtarı Answer Key

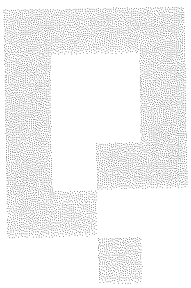
TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	A	D	B	A	B	B	B	C	D	B	B	B	D	E	C

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	D	A	B	D	E	B	B	E	C	C	A	D	E	A	B

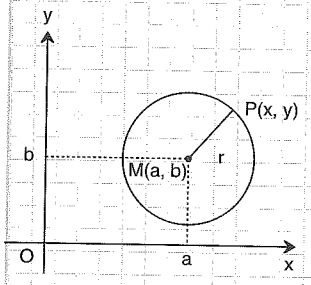
www.ztcprep.com



ÇEMBER ANALİTİĞİ

ANALYTIC GEOMETRY
CIRCLE

ÖZELLİK|Property 1



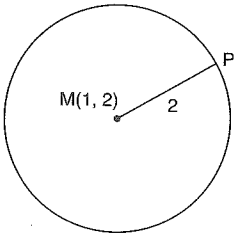
$r = \sqrt{(x-a)^2 + (y-b)^2}$

$r^2 = (x-a)^2 + (y-b)^2$

M(a, b) merkez
M(a, b) center

r yarıçaplı çember
circle with radius r

1.

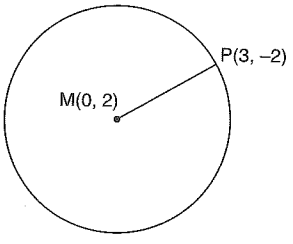


⇒ M merkezli çember denklemi nedir?

What is the circle equation with a center M?

$(x-1)^2 + (y-2)^2 = 4$

2.

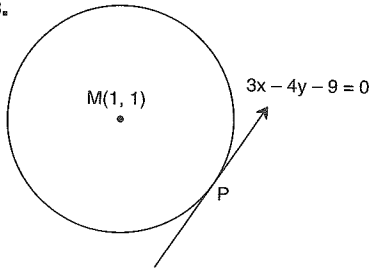


⇒ M merkezli çember denklemi nedir?

What is the circle equation with a center M?

$x^2 + (y-2)^2 = 25$

3.

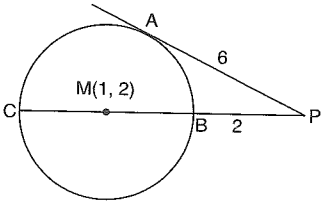


⇒ M merkezli çember denklemi nedir?

What is the circle equation with a center M?

$(x-1)^2 + (y-1)^2 = 4$

4.

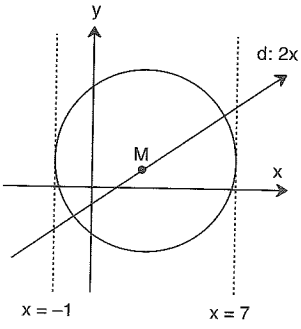


⇒ M merkezli çember denklemi nedir?

What is the circle equation with a center M?

$(x-1)^2 + (y-2)^2 = 64$

5.

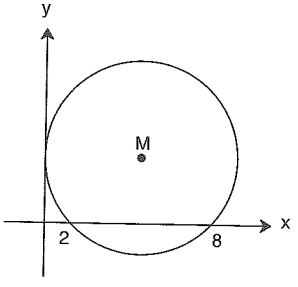


⇒ M merkezli çember denklemi nedir?

What is the circle equation with a center M?

$(x-3)^2 + (y-1)^2 = 16$

6.

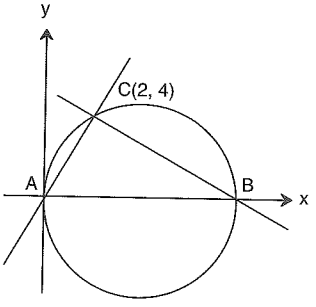


⇒ M merkezli çember denklemi nedir?

What is the circle equation with a center M?

$(x-5)^2 + (y-4)^2 = 25$

7.



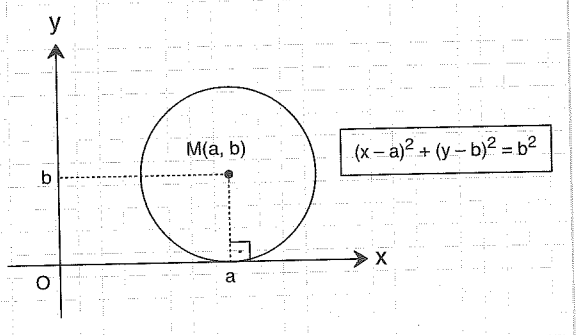
⇒ [AB] çaplı çember denklemi nedir?

What is the circle equation with a diameter [AB]?

$(x-5)^2 + y^2 = 25$

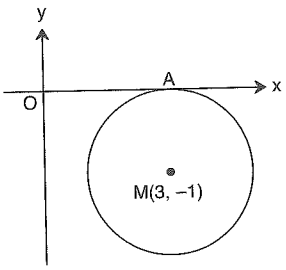
PUZA YAYINLARI

ÖZELLİK|Property 2



$(x-a)^2+(y-b)^2=b^2$

1.

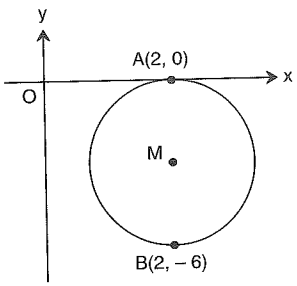


⇒ M merkezli çember denklemi nedir?

What is the circle equation with a center M?

$(x-3)^2+(y+1)^2=1$

2.

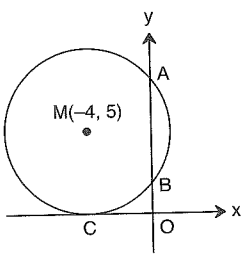


⇒ M merkezli çember denklemi nedir?

What is the circle equation with a center M?

$(x-2)^2+(y+3)^2=9$

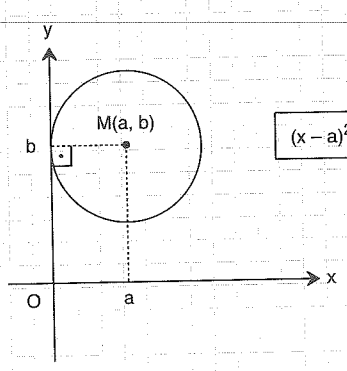
3.



⇒ |AB| = ?

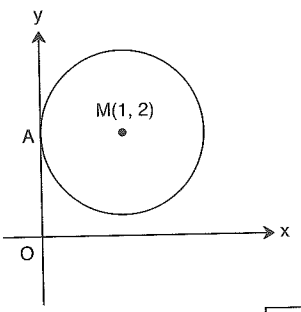
6

ÖZELLİK|Property 3



$(x-a)^2+(y-b)^2=a^2$

1.

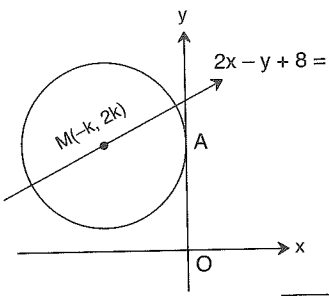


⇒ M merkezli çember denklemi nedir?

What is the circle equation with a center M?

$(x-1)^2+(y-2)^2=1$

2.

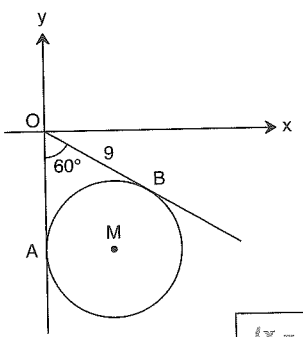


⇒ M merkezli çember denklemi nedir?

What is the circle equation with a center M?

$(x+2)^2+(y-4)^2=4$

3.



|OB| = 9 br

⇒ M merkezli çember denklemi nedir?

What is the circle equation with a center M?

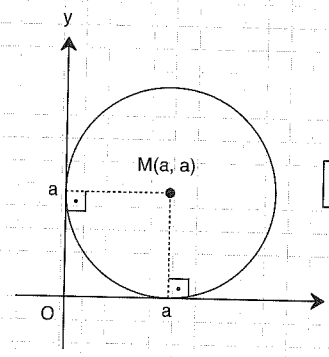
$(x-3\sqrt{3})^2+(y+9)^2=27$

PUZA YAYINLARI

www.ztcprep.com

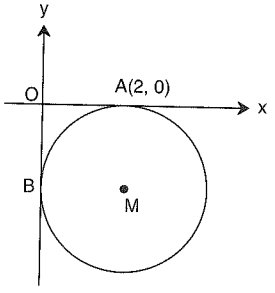
ZTC زنگنه مجموعه موسسات Özellikler

ÖZELLİK | Property 4



$(x-a)^2 + (y-a)^2 = a^2$

1.

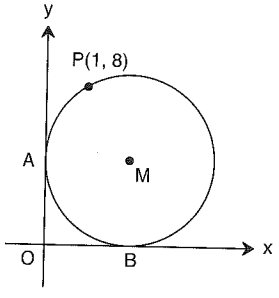


⇒ M merkezli çember denklemi nedir?

What is the circle equation with a center M?

$(x-2)^2 + (y+2)^2 = 4$

2.

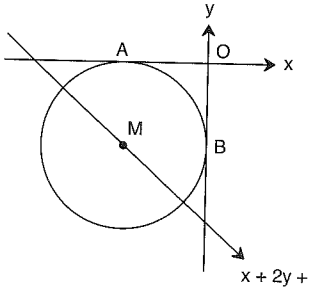


⇒ M merkezli çember denklemi nedir?

What is the circle equation with a center M?

$(x-5)^2 + (y-5)^2 = 25$

3.



⇒ M merkezli çember denklemi nedir?

What is the circle equation with a center M?

$(x+2)^2 + (y+2)^2 = 4$

ÖZELLİK | Property 5

$(x-a)^2 + (y-b)^2 = r^2$

$x^2 + y^2 - 2ax - 2by + a^2 + b^2 - r^2 = 0$

$-2a = D \quad -2b = E \quad a^2 + b^2 - r^2 = F$

$x^2 + y^2 + Dx + Ey + F = 0$

$M\left(-\frac{D}{2}, -\frac{E}{2}\right)$ $\quad r = \frac{1}{2}\sqrt{D^2 + E^2 - 4F}$

$\Delta = D^2 + E^2 - 4F$

- → $\Delta > 0$ çember *(circle)*
- → $\Delta = 0$ nokta *(point)*
- → $\Delta < 0$ çember belirtmez *(it does not define a circle)*

1. $x^2 + y^2 - 6x + 4y - 3 = 0$

⇒ M = ?

⇒ r = ?

(3, −2), 4

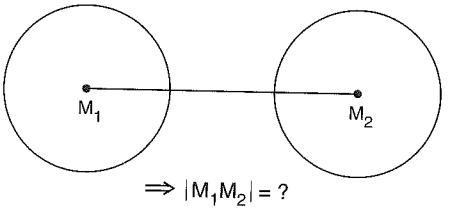
2. $(m-2)x^2 + 4y^2 + 8x + (m+2)y - 4 = 0$ çember belirtiyorsa *(If it defines a circle)*

⇒ r = ?

$\sqrt{3}$

3. $x^2 + y^2 - 2x - 6y - 12 = 0 \rightarrow M_1$ (merkezi) *(its center is)*

$x^2 + y^2 + 6x - 4y - 8 = 0 \rightarrow M_2$ (merkezi) *(its center is)*



⇒ $|M_1M_2|$ = ?

$\sqrt{17}$

PUZA YAYINLARI

www.ztcprep.com

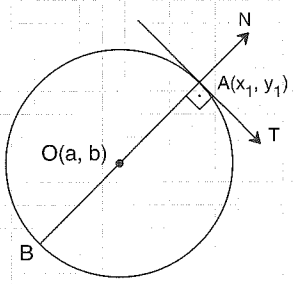
ÖZELLİK|Property 6

Çember üzerinden çizilen teğet ve normal denklemi

The equation of a tangent and normal line that is drawn over the circle

$$m_N = \frac{y_1 - b}{x_1 - a}$$

$$m_T \cdot m_N = -1$$



Teğet Denklemi

Equation of tangential

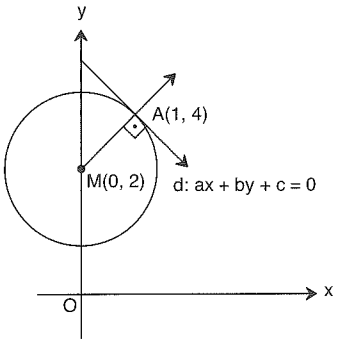
$$y - y_1 = m_T(x - x_1)$$

Normal Denklemi

Equation of normal line

$$y - y_1 = m_N(x - x_1)$$

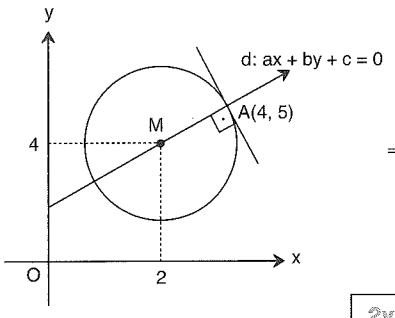
1.



⇒ d = ?

2y + x − 9 = 0

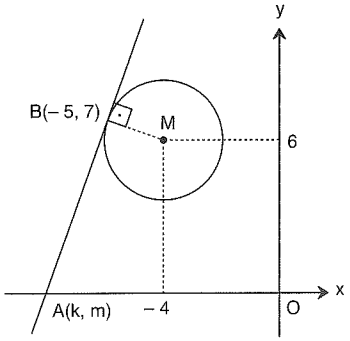
2.



⇒ d = ?

2y − x − 6 = 0

3.



⇒ k + m = ?

−12

ÖZELLİK|Property 7

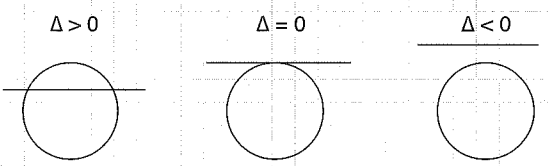
Doğru ile çemberin birbirine göre durumları

Cases of a line and circle as per each other

$(x - a)^2 + (y - b)^2 = r^2$ ← $y = mx + n$

$(x - a)^2 + (mx + n - b)^2 = r^2$

$(x - a)^2 + (mx + n - b)^2 - r^2 = 0$

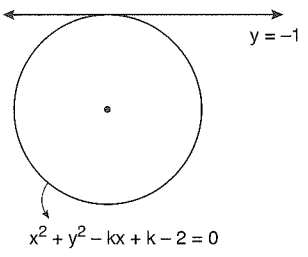


1. $(x - 1)^2 + (y - 3)^2 = 2$ çemberi ile $y = x + 2$ doğrusunun varsa kesim noktalarını bulunuz.

Find the intersecting points of the $(x-1)^2 + (y-3)^2 = 2$ circle and the $y = x + 2$ line if there is any.

(0,2), (2,4)

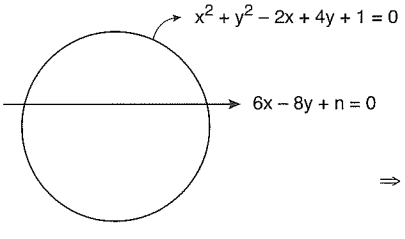
2.



⇒ k = ?

2

3.



⇒ ? < n < ?

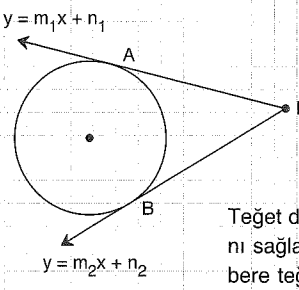
− 42 < n < −2

PUZA YAYINLARI PUZA YAYINLARI PUZA YAYINLARI

ÖZELLİK|Property 8

Çember dışındaki bir noktadan çizilen teğet denklemleri

The equations of tangent which are drawn from a point outside the circle



Teğet denklemi $P(x_1, y_1)$ noktasını sağlar. Ayrıca, doğrunun çembere teğet olma şartı kullanılarak m ve n değerleri bulunur.

An equation of tangent proves the point $P(x_1, y_1)$. Furthermore, by utilizing the condition being tangential to a circle, m and n values are found.

1. $(x-6)^2 + y^2 = 36$ çemberinin dışındaki (16, 0) noktasında çizilen teğet denklemleri nedir?

The equations of tangents which are drawn from a point (16, 0) outside the circle $(x-6)^2 + y^2 = 36$

$5y + 3x + 48 = 0$
$5y - 3x + 48 = 0$

2. $x^2 + y^2 = 5$ çemberinin dışındaki A(3, 1) noktasından çizilen teğet denklemleri nedir?

The equations of tangents which are drawn from a point A(3, 1) outside the circle $x^2 + y^2 = 5$

$y = 2x - 5$
$y = -\frac{1}{2}x + \frac{5}{2}$

3. $x^2 + y^2 = 10$ çemberine dışındaki A(2, 4) noktasından çizilen teget denklemleri nedir?

The equations of tangents which are drawn from a point A(2, 4) outside the circle $x^2 + y^2 = 10$

$3y - x - 10 = 0$
$y + 3x - 10 = 0$

ÖZELLİK|Property 9

$A(x_1\ y_1)$ noktası ile $(x-a)^2 + (y-b)^2 = r^2$ çemberi için

$(x_1-a)^2 + (y_1-b)^2 < r^2 \Rightarrow$ nokta çemberin içinde
the point inside the circle

$(x_1-a)^2 + (y_1-b)^2 > r^2 \Rightarrow$ nokta çemberin dışında
the point outside the circle

$(x_1-a)^2 + (y_1-b)^2 = r^2 \Rightarrow$ nokta çemberin üstünde
the point at the circle

1. A(1, – 2) noktası $(x-2)^2 + (y-1)^2 = k$ çemberinin dışında ise k ne olmalıdır?

If the point A (1, –2) is outside the $(x-2)^2 + (y-1)^2 = k$ circle, what must k be?

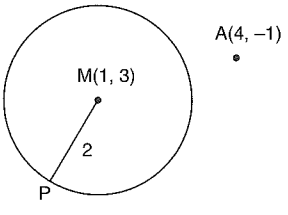
$k < 10$

2. A(2, 1) noktası $(x-1)^2 + (y+1)^2 = k$ çemberinin içinde ise k ne olmalıdır?

If the point A(2, 1) is inside the $(x-1)^2 + (y+1)^2 = k$ circle, what must k be?

$5 < k$

3.



A noktasının çemberin en uzak noktasına olan uzaklığı kaç br'dir?

How many unit is the distance of a point A to the farthest point of the circle?

7

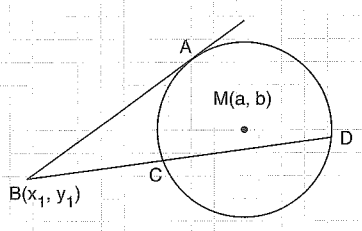
PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK|Property 10

Bir noktanın çembere göre kuvveti

Power of a point with respect to a circle



$|AB|^2 = |BC| \cdot |BD|$ (kuvvete p dersek) (*Let the power be p*)

☆ $(x - a)^2 + (y - b)^2 = r^2$

$|p| = (x_1 - a)^2 + (y_1 - b)^2 - r^2$

☆ $x^2 + y^2 + Dx + Ey + F = 0$

$|p| = x_1^2 + y_1^2 + Dx_1 + Ey_1 + F$

1. A(1, – 2) noktasının $(x - 1)^2 + (y - 2)^2 = 3$ çemberine göre kuvvetini bulunuz.

Find the power of the point A(1, –2) as per the circle $(x - 1)^2 + (y - 2)^2 = 3$.

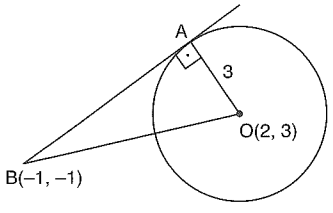
13

2. A(– 2, 1) noktasının $x^2 + y^2 + 2x + y + 1 = 0$ çemberine göre kuvvetini bulunuz.

Find the power of the point A(–2, 1) as per the circle $x^2 + y^2 + 2x + y + 1 = 0$.

3

3.

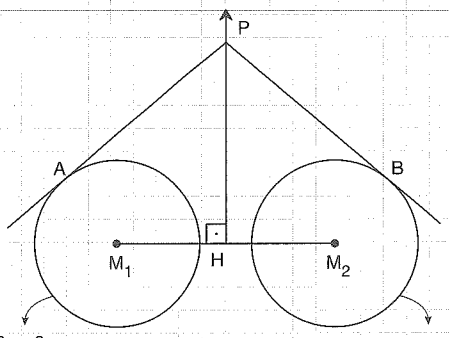


$\Rightarrow |AB| = ?$

4

ÖZELLİK|Property 11 Kuvvet Ekseni

Radical axis

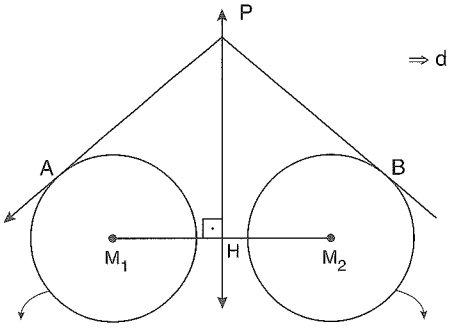


$x^2 + y^2 + D_1x + E_1y + F_1 = 0$ $\quad$ $x^2 + y^2 + D_2x + E_2y + F_2 = 0$

Kuvvet eksenini bulmak için x^2 ve y^2 yok edilir.

In order to find the radical axis, the x^2 *and* y^2 *are eliminated.*

1. d: ax + by + c = 0

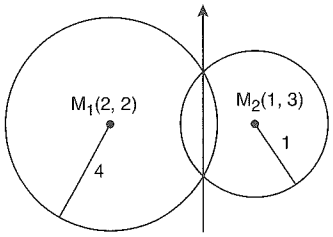


$\Rightarrow$ d = ?

$x^2 + y^2 - 2x + y - 4 = 0$ $\quad$ $x^2 + y^2 + 3x - 2y + 1 = 0$

5x – 3y + 5 = 0

2. d: ax + by + c = 0



$\Rightarrow$ d = ?

2y – 2x – 17 = 0

3. $x^2 + y^2 + 4x + 6y + 4 = 0$ $\quad$ $x^2 + y^2 - 8x - 10y + 30 = 0$ çemberlerinin kuvvet ekseni nedir?

What is the radical axis of the circles $x^2 + y^2 + 4x + 6y + 4 = 0$ $x^2 + y^2 - 8x - 10y + 30 = 0$?

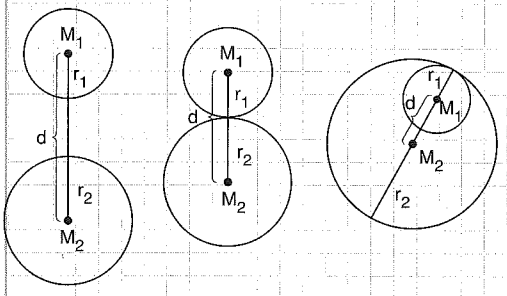
6x + 8y – 13 = 0

PUZA YAYINLARI PUZA YAYINLARI PUZA YAYINLARI

ÖZELLİK|Property 12

İki çemberin birbirine göre durumu

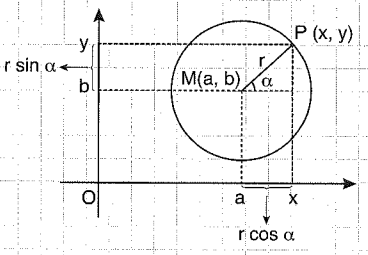
Cases of a two circles as per each other



ÖZELLİK|Property 13

Çemberin Parametrik Denklemi

The parametric equation of a circle



$(x - a) = r\cos\alpha$

$(y - b) = r\sin\alpha$

$x = a + r\cos\alpha$

$y = b + r\sin\alpha$

$(x - a)^2 + (y - b)^2 = r^2(\cos^2\alpha + \sin^2\alpha)$

$(x - a)^2 + (y - b)^2 = r^2$

1. $x^2 + y^2 = 16$ $(x + 4)^2 + (y - a)^2 = 1$

$a > 0$ çemberleri dıştan teğet olduğuna göre

if the circles are externally tangential

$\Rightarrow a = ?$

3

1. $x = 2\cos\alpha + 1$

$y = 2\sin\alpha - 3$ $\Rightarrow$ çemberinin denklemi nedir?

What is the equation of the circle?

$(x - 1)^2 + (y + 3)^2 = 4$

2. $x^2 + (y - a)^2 = 16$ $(x - 2)^2 + y^2 = 1$

$a > 0$ çemberleri içten teğet ise

in case the circles are internally tangents

$\Rightarrow a = ?$

$\sqrt{5}$

2. $x = 3 + 4\cos\alpha$

$y = -2 + 4\sin\alpha$ $\Rightarrow$ çemberinin denklemi nedir?

What is the equation of the circle?

$(x - 3)^2 + (y + 2)^2 = 16$

3. $(x + 3)^2 + (y - 2)^2 = 9$

$(x - 1)^2 + (y + 1)^2 = r^2$

çemberleri dıştan teğet olduğuna göre

if the circles are externally tangential

$\Rightarrow r = ?$

2

3. $(x - 1)^2 + (y + 2)^2 = 4$ olan çemberin parametrik denklemi nedir?

What is the parametric equation of the circle which is $(x - 1)^2 + (y + 2)^2 = 4$*?*

$x = 1 + 2\cos\alpha$

$y = -2 + 2\sin\alpha$

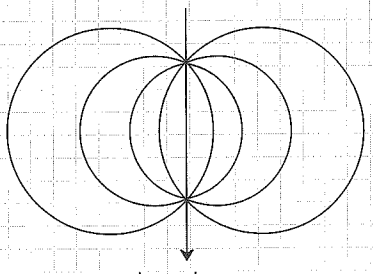
PUZA YAYINLARI

www.ztcprep.com

ZTC زنگنه Properties

ÖZELLİK | Property 14

Çember Demeti *Circle Bundle*



d: ax + by + c

$x^2 + y^2 + D_1x + E_1y + F_1 + k(x^2 + y^2 + D_2x + E_2y + F) = 0$

1. $(x-4)^2 + (y-4)^2 = 9$ ve $(x-3)^2 + (y-3)^2 = 4$ çemberlerinin kesim noktalarından ve P(2, 1) noktasından geçen çember denklemi nedir?

What is the equation of a circle that passes through the intersecting point of $(x-4)^2 + (y-4)^2 = 9$ and $(x-3)^2 + (y-3)^2 = 4$ circles and a point P (2, 1)?

$x^2 + y^2 - \frac{16}{3}x - \frac{16y}{3} + 3 = 0$

2. $x^2 + y^2 - 2x + y - 4 = 0$

$x^2 + y^2 - 2x + 2y - 8 = 0$

çemberlerinin kesim noktalarından geçen doğru denklemi nedir?

What is the equation of a line that passes through the intersecting point of $x^2 + y^2 - 2x + y - 4 = 0$ and $x^2 + y^2 - 2x + 2y - 8 = 0$ circles?

$y = 4$

3. $x^2 + y^2 - 8x + 4y + 16 = 0$

$x^2 + y^2 + 4x - 8y - 4 = 0$

çemberlerinin kesim noktalarından geçen doğru denklemi nedir?

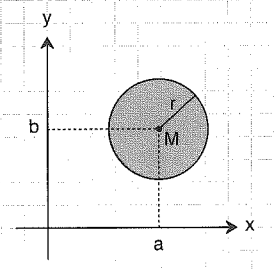
What is the equation of a line that passes through the intersecting point of $x^2 + y^2 - 8x + 4y + 16 = 0$ and $x^2 + y^2 + 4x - 8y - 4 = 0$ circles?

$3y - 3x + 5 = 0$

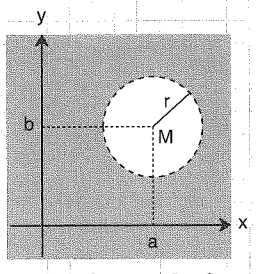
ÖZELLİK | Property 15

Çemberin Düzlemde Ayırdığı Bölge

Sector that a circle separates at the plane



$(x-a)^2 + (y-b)^2 \le r^2$



$(x-a)^2 + (y-b)^2 > r^2$

1. $(x-2)^2 + (y-1)^2 \le 4$

Eşitsizliğinin çözüm kümesinin grafiğini çiziniz.

Draw the graph of a solution set of the $(x-2)^2 + (y-1)^2 \le 4$ inequality.

2. $4 < x^2 + y^2 \le 9$

Eşitsizliğinin çözüm kümesinin grafiğini çiziniz.

Draw the graph of a solution set of the $4 < x^2 + y^2 \le 9$ inequality.

3. $x^2 + y^2 - 2x + 4y - 4 > 0$

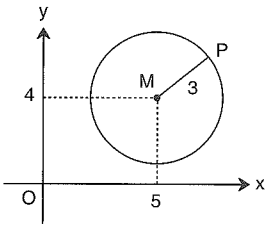
Eşitsizliğinin çözüm kümesinin grafiğini çiziniz.

Draw the graph of a solution set of the $x^2 + y^2 - 2x + 4y - 4 > 0$ inequality.

PUZA YAYINLARI

www.ztcprep.com

1.



$|MP| = 3$ br

Şekildeki M merkezli çemberin denklemi nedir?

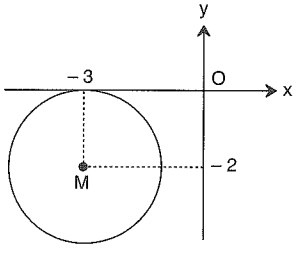
What is the circle equation with a center M as in figure?

A) $(x+4)^2 + (y+5)^2 = 9$ B) $(x-5)^2 + (y-4)^2 = 3$

C) $(x-5)^2 + (y+4)^2 = 9$ D) $(x+5)^2 + (y+4)^2 = 9$

E) $(x-5)^2 + (y-4)^2 = 9$

2.



Şekildeki M merkezli çemberin denklemi nedir?

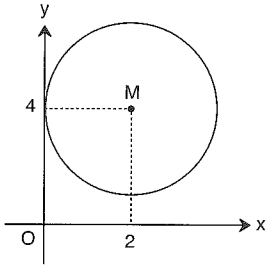
What is the circle equation with a center M as in the figure?

A) $(x-3)^2 + (y-2)^2 = 9$ B) $(x+3)^2 + (y+2)^2 = 4$

C) $(x+3)^2 + (y+2)^2 = 9$ D) $(x-3)^2 + (y-2)^2 = 4$

E) $(x+3)^2 + (y+2)^2 = 2$

3.



Şekildeki M merkezli çemberin denklemi nedir?

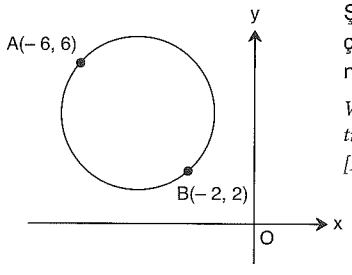
What is the circle equation with a center M as in figure?

A) $(x-2)^2 + (y-4)^2 = 16$ B) $(x+2)^2 + (y-4)^2 = 4$

C) $(x+2)^2 + (y+4)^2 = 16$ D) $(x+2)^2 + (y+4)^2 = 4$

E) $(x-2)^2 + (y-4)^2 = 4$

4.



Şekildeki [AB] çaplı çemberin denklemi nedir?

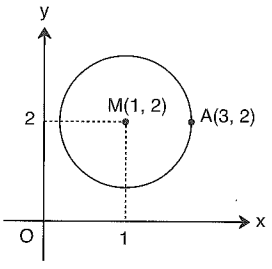
What is the circle equation with a diameter [AB] as in figure?

A) $(x-4)^2 + (y+4)^2 = 8$ B) $(x+4)^2 + (y-4)^2 = 8$

C) $(x+4)^2 + (y-4)^2 = 32$ D) $(x-4)^2 + (y-4)^2 = 16$

E) $(x-2)^2 (y+2)^2 = 8$

5.



M merkezli çemberin denklemi nedir?

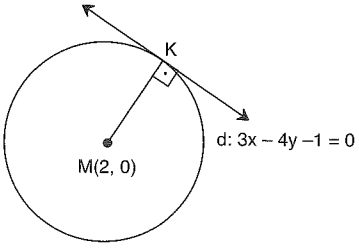
What is the circle equation with a center M?

A) $(x-1)^2 + (y-2)^2 = 2$ B) $(x-1)^2 + (y-2)^2 = 4$

C) $(x+1)^2 + (y+2)^2 = 2$ D) $(x+1)^2 + (y+2)^2 = 4$

E) $(x+1)^2 + (y+2)^2 = 4$

6.

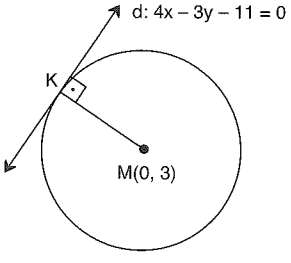


M merkezli çemberin yarıçapı kaç birimdir?

What's the lenght of the radius of the given circle with center M?

A) 1 B) 2 C) 3 D) 4 E) 5

7.



M merkezli çemberin denklemi nedir?

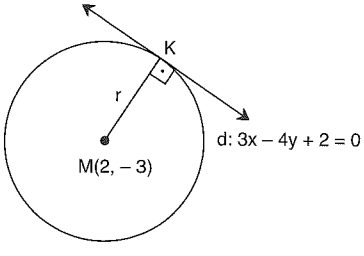
What is the circle equation with a center M?

A) $x^2 + (y-3)^2 = 3$ B) $x^2 + (y-3)^2 = 25$

C) $x^2 + (y+3)^2 = 3$ D) $x^2 + (y-3)^2 = 16$

E) $x^2 + (y+3)^2 = 16$

8.



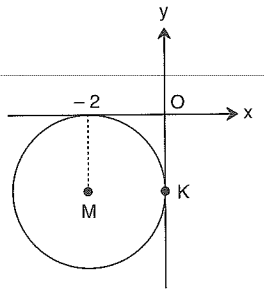
$\Rightarrow r = ?$

A) 2 B) 3 C) 4 D) 5 E) 6

PUZA YAYINLARI

www.ztcprep.com

9.



M merkezli çemberin denklemi nedir?

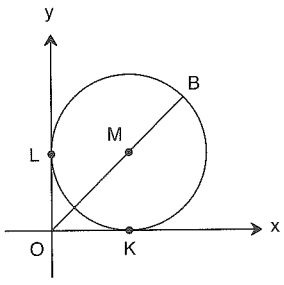
What is the circle equation with a center M?

A) $(x + 2)^2 + (y + 2)^2 = 2$ B) $(x - 2)^2 + (y - 2)^2 = 2$

C) $x^2 + y^2 = 4$ D) $(x + 2)^2 + (y + 2)^2 = 4$

E) $(x - 2)^2 + (y - 2)^2 = 4$

10.



$|OB| = (6 + 6\sqrt{2})$ br

M merkezli çemberin denklemi nedir?

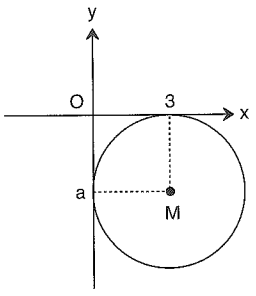
What is the circle equation with a center M

A) $(x - 1)^2 + (y - 1)^2 = 1$ B) $(x - 2)^2 + (y - 2)^2 = 4$

C) $(x - 3)^2 + (y - 3)^2 = 9$ D) $(x - 6)^2 + (y - 6)^2 = 36$

E) $x^2 + y^2 = 6$

11.



M merkezli çemberin denklemi

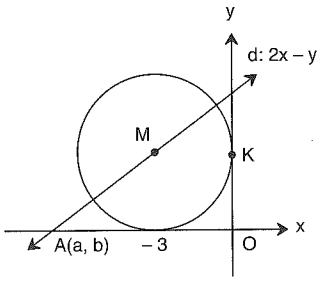
The circle equation with a center M

$(x - 3)^2 + (y - a)^2 = 9$

$\Rightarrow a = ?$

A) – 2 B) – 3 C) – 4 D) – 5 E) – 6

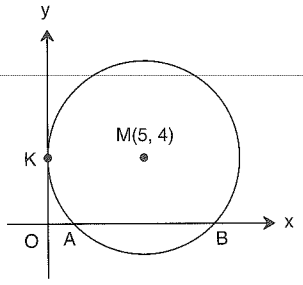
12.



$\Rightarrow a = ?$

A) $\frac{-9}{2}$ B) – 4 C) $\frac{-10}{3}$ D) – 3 E) –1,5

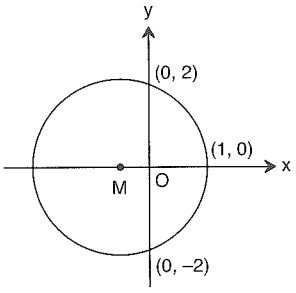
13.



$\Rightarrow |AB| = ?$

A) 2 B) 4 C) 6 D) 8 E) 10

14.

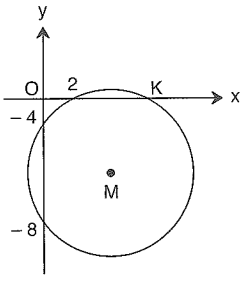


M merkezli çemberin yarıçapı kaç birimdir?

What's the lenght of the radius of the given with center M?

A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3

15.



M merkezli çemberin denklemi nedir?

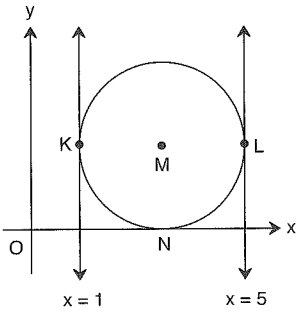
What is the circle equation with a center M?

A) $(x - 3)^2 + (y + 6)^2 = 16$ B) $(x - 9)^2 + (y + 6)^2 = 85$

C) $(x - 3)^2 + (y - 6)^2 = 80$ D) $(x - 2)^2 + (y + 2)^2 = 16$

E) $(x - 9)^2 + (y + 6)^2 = 117$

16.



M merkezli çemberin denklemi nedir?

What is the circle equation with a center M?

A) $(x - 1)^2 + (y - 5)^2 = 16$ B) $(x - 3)^2 + (y - 2)^2 = 4$

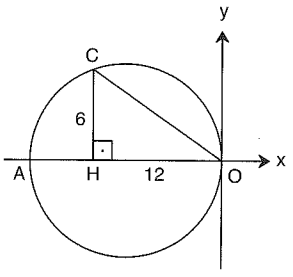
C) $(x - 3)^2 + (y - 3)^2 = 4$ D) $(x - 3)^2 + (y - 2)^2 = 16$

E) $(x - 3)^2 + y^2 = 16$

PUZA YAYINLARI

www.ztcprep.com

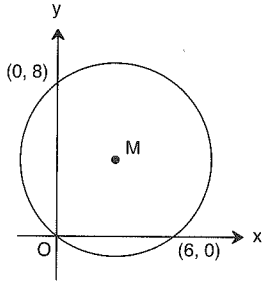
1.



[CH] ⊥ [AO]
[AB] çap
[AB] diameter
$|CH| = 6$ br
$|HO| = 12$ br
Çemberin denklemi nedir?
What is the equation of the circle?

A) $(x-12)^2 + y^2 = 36$
B) $(x+12)^2 + y^2 = 36$
C) $\left(x+\frac{15}{2}\right)^2 + y^2 = \frac{225}{4}$
D) $\left(x-\frac{5}{2}\right)^2 + \left(y-\frac{5}{2}\right)^2 = \frac{25}{4}$
E) $\left(x+\frac{5}{2}\right)^2 + \left(y-\frac{5}{2}\right)^2 = \frac{25}{4}$

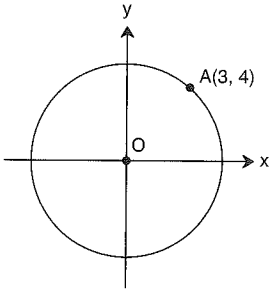
2.



M merkezli çemberin denklemi nedir?
What is the circle equation with a center M?

A) $(x-8)^2 + (y-6)^2 = 10$
B) $(x-6)^2 + (y-8)^2 = 25$
C) $(x+3)^2 + (y+4)^2 = 10$
D) $(x-3)^2 + (y-4)^2 = 25$
E) $(x-2)^2 + (y-3)^2 = 4$

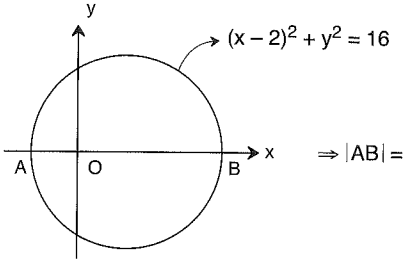
3.



O merkezli çemberin yarıçapı kaç birimdir?
What's the lenght of the radius of the given circle with center O?

A) 4
B) 5
C) $5\sqrt{2}$
D) 8
E) $8\sqrt{2}$

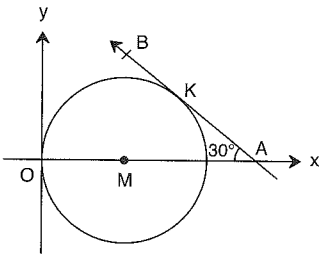
4.



$\Rightarrow |AB| = ?$

A) 2
B) 3
C) $2\sqrt{3}$
D) 4
E) 8

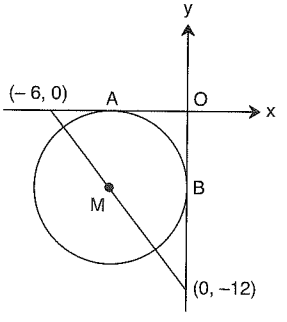
5.



$A(9, 0)$
$m(\widehat{BAO}) = 30°$
M merkezli çemberin denklemi nedir?
What is the circle equation with a center M?

A) $(x-2)^2 + y^2 = 4$
B) $(x+1)^2 + y^2 = 4$
C) $(x+3)^2 + y^2 = 9$
D) $(x-3)^2 + y^2 = 9$
E) $(x-1)^2 + y^2 = 1$

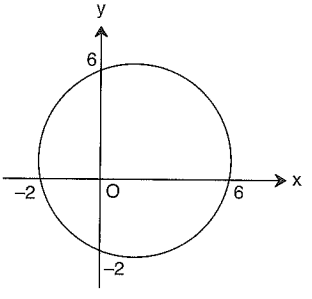
6.



M merkezli çemberin denklemi nedir?
What is the circle equation with a center M?

A) $(x+2)^2 + (y+2)^2 = 3$
B) $(x+2)^2 + (y+2)^2 = 4$
C) $(x-1)^2 + (y+1)^2 = 1$
D) $(x+1)^2 + (y+1)^2 = 1$
E) $(x+4)^2 + (y+4)^2 = 16$

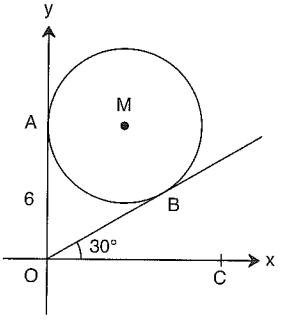
7.



$\Rightarrow r = ?$

A) 1
B) 2
C) $2\sqrt{5}$
D) 4
E) $4\sqrt{5}$

8.



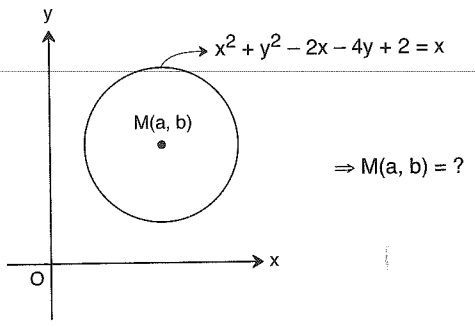
$|OA| = 6$ br
$m(\widehat{BOC}) = 30°$
M merkezli çemberin yarıçapı kaçtır?
What's the lenght of the radius of the given circle with center M?

A) 1
B) 2
C) $2\sqrt{3}$
D) 4
E) $4\sqrt{3}$

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

www.ztcprep.com

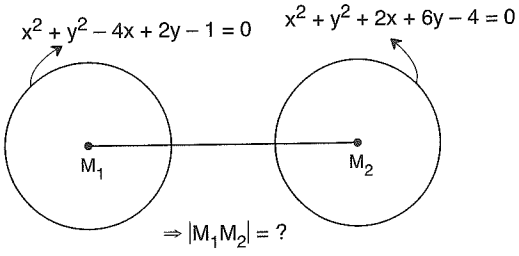
9.



$\Rightarrow$ M(a, b) = ?

A) $(-2, -4)$ B) $(2, 4)$ C) $(-1, -2)$
D) $(1, 2)$ E) $(-4, 2)$

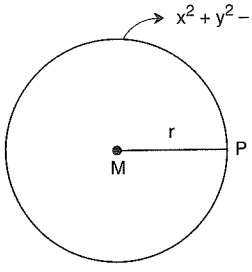
10.



$\Rightarrow |M_1M_2| = ?$

A) $\sqrt{7}$ B) $\sqrt{13}$ C) 5 D) 6 E) $\sqrt{51}$

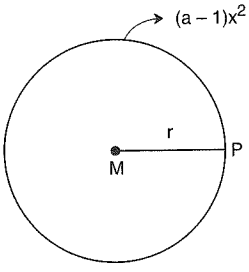
11.



$\Rightarrow$ r = ?

A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3

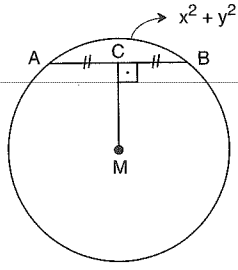
12.



$\Rightarrow$ r = ?

A) 1 B) $\sqrt{2}$ C) $\frac{3}{2}$ D) $\sqrt{3}$ E) $\frac{7}{2}$

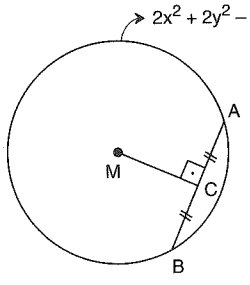
13.



[AB] $\perp$ [CM]
C = (2, –2)
|AC| = |CB|
$\Rightarrow$ |AB| = ?

A) $2\sqrt{2}$ B) $\sqrt{13}$ C) 5 D) $4\sqrt{2}$ E) $2\sqrt{13}$

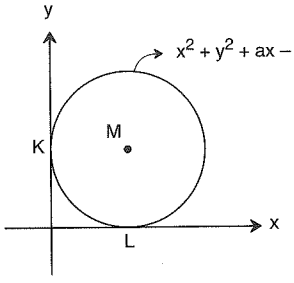
14.



[AB] $\perp$ [CM]
|AC| = |CB|
C = (2, 1)
$\Rightarrow$ |AB| = ?

A) 1 B) $\sqrt{2}$ C) 2 D) $2\sqrt{2}$ E) 4

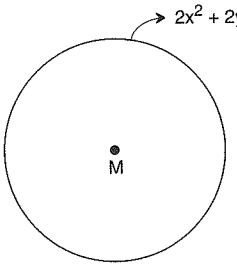
15.



$\Rightarrow$ a + b = ?

A) – 4 B) 0 C) 2 D) 4 E) 8

16.



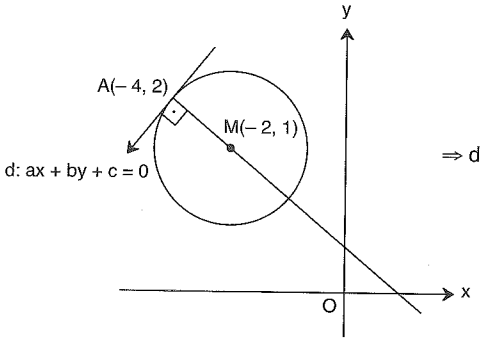
$\Rightarrow$? < k < ?

A) $(-\infty, 20)$ B) $(-\infty, -20)$ C) $(-\infty, 0)$
D) $(0, \infty)$ E) $(20, \infty)$

PUZA YAYINLARI

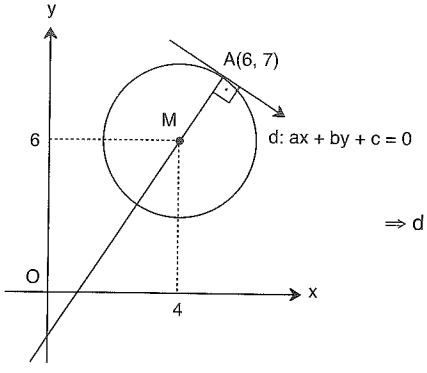
www.ztcprep.com

1.



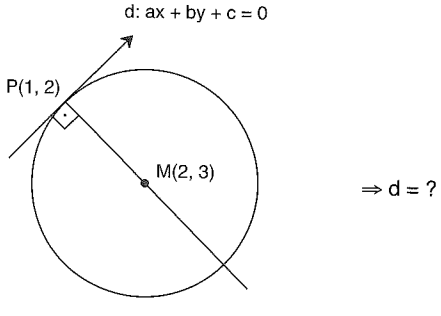
A) $x - y - 8 = 0$
B) $2y + x - 8 = 0$
C) $2y + x - 18 = 0$
D) $y - 2x - 10 = 0$
E) $y - 2x + 6 = 0$

2.



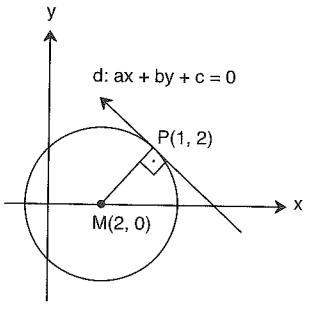
A) $y + 2x - 6 = 0$
B) $y - x + 1 = 0$
C) $y + 2x - 19 = 0$
D) $y + x - 6 = 0$
E) $2x + y - 12 = 0$

3.



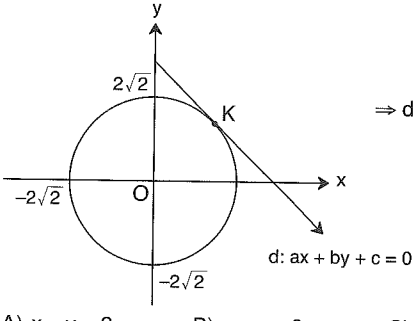
A) $2y - x - 5 = 0$
B) $y - 2x - 4 = 0$
C) $x + y - 3 = 0$
D) $2y + x - 1 = 0$
E) $2y - x - 5 = 0$

4.



A) $x + 2y - 5 = 0$
B) $2y - x - 3 = 0$
C) $y - 2x - 4 = 0$
D) $y + 2x - 4 = 0$
E) $y + 2x - 3 = 0$

5.



A) $x - y = 2$
B) $x + y = 2$
C) $x + 2y = 2$
D) $x + y = 4$
E) $2x + y = 2$

6. $(x - 1)^2 + (y - 2)^2 = 4$ çemberinin dışındaki A(–1, 1) noktasından çizilen tegetlerden birinin denklemi nedir?

What is one of the equations of tangents which are drawn from a point A(–1, 1) outside the circle $(x - 1)^2 + (y - 2)^2 = 4$?

A) $3x - y - 4 = 0$
B) $2x + y - 2 = 0$
C) $3x + 4y - 1 = 0$
D) $x - y + 1 = 0$
E) $2x + y - 1 = 0$

7. $(x - 1)^2 + (y - 1)^2 = 1$ çemberinin dışındaki A(0, 3) noktasından çizilen tegetlerden birinin denklemi nedir?

What is one of the equations of tangents which are drawn from a point A(0, 3) outside the circle $(x - 1)^2 + (y - 1)^2 = 1$?

A) $3x - y - 6 = 0$
B) $x + y - 3 = 0$
C) $3x + 4y - 12 = 0$
D) $2x - y - 6 = 0$
E) $x + y - 5 = 0$

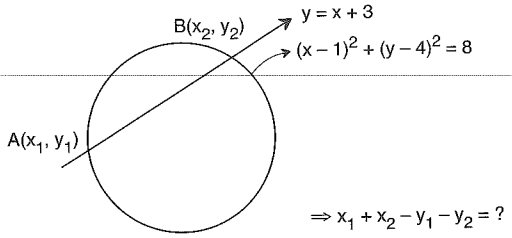
8. $x^2 + y^2 = 5$ çemberinin dışındaki A(3, 1) noktasından çizilen tegetlerden birinin denklemi nedir?

What is one of the equations of tangents which are drawn from a point A(3, 1) outside the circle $x^2 + y^2 = 5$?

A) $x + y - 1 = 0$
B) $x - 2y - 1 = 0$
C) $x - y - 1 = 0$
D) $x + y + 2 = 0$
E) $y - 2x + 5 = 0$

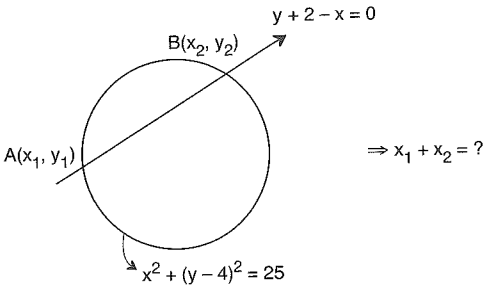
PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

9.



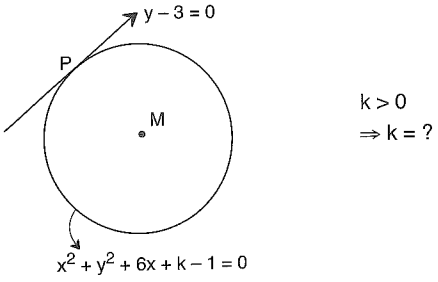
A) – 6 B) 0 C) 2 D) 4 E) 5

10.



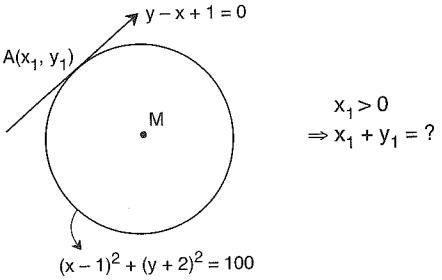
A) – 6 B) – 3 C) 0 D) 3 E) 6

11.



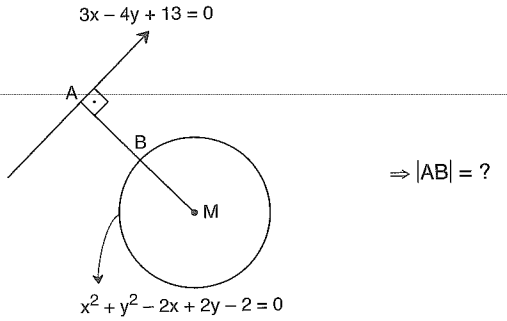
A) 5 B) 4 C) 3 D) 2 E) 1

12.



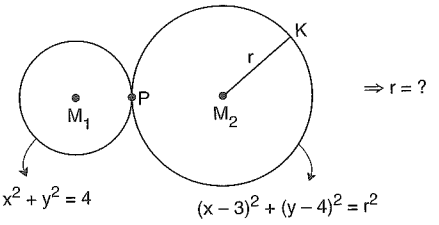
A) 8 B) 10 C) 13 D) 15 E) 16

13.



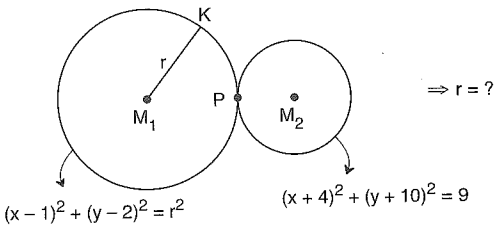
A) 1 B) 2 C) 3 D) 4 E) 5

14.



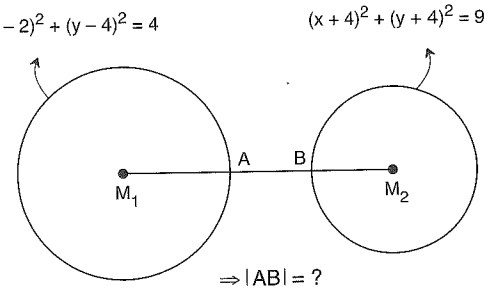
A) 1 B) 3 C) 4 D) 6 E) 9

15.



A) 12 B) 10 C) 9 D) 8 E) 7

16.



A) 6 B) 5 C) 4 D) 3 E) 2

PUZA YAYINLARI

www.ztcprep.com

1. A(1, 2) noktasının $x^2 + y^2 + 2x - y + 1 = 0$ çemberine göre kuvveti nedir?

What is the power of point A(1, 2) with respect to circle $x^2 + y^2 + 2x - y + 1 = 0$?

A) 36 B) 12 C) 10 D) 6 E) 4

2. A(–2, 1) noktasının $x^2 + y^2 + 2x - y + 3 = 0$ çemberine göre kuvveti nedir?

What is the power of point A(–2, 1) with respect to circle $x^2 + y^2 + 2x - y + 3 = 0$?

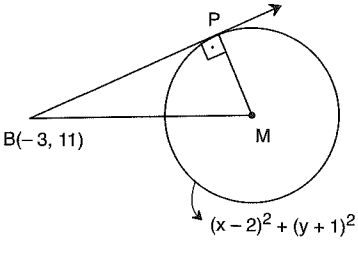
A) 15 B) 4 C) 3 D) 2 E) 1

3. A(–1, 1) noktasının $(x - 2)^2 + (y - 3)^2 = 4$ çemberine göre kuvvet uzunluğu kaç birimdir?

What is the lenght of power of foint A(–1, 1) with respect to a circle $(x - 2)^2 + (y - 3)^2 = 4$?

A) 6 B) 5 C) 3 D) 2 E) 1

4.



[BP] ⊥ [PM]
⇒ |PB| = ?

A) 20 B) 16 C) 14 D) 12 E) 10

5. $(x - a)^2 + y^2 = a^2$ çemberi ile $x^2 + (y - 3)^2 = 1$ çemberi dıştan teget ise a kaçtır?

If the circle $(x - a)^2 + y^2 = a^2$ and the circle $x^2 + (y - 3)^2 = 1$ are externally tangents then what is the value of a?

A) 5 B) 4 C) $\frac{7}{2}$ D) 3 E) $\frac{5}{2}$

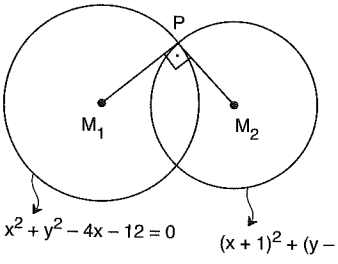
6. $a > 0$

$(x - 1)^2 + y^2 = 1$ çemberi ile $x^2 + (y - a)^2 = 9$ çemberi içten teğet ise a kaçtır?

If the circle $(x - 1)^2 + y^2 = 1$ and the circle $x^2 + (y - a)^2 = 9$ are internally tangents, then what is the value of a?

A) $4\sqrt{2}$ B) 4 C) 3 D) $\sqrt{3}$ E) $\sqrt{2}$

7.



[PM$_1$] ⊥ [PM$_2$]
⇒ r = ?

A) 1 B) 2 C) 3 D) 4 E) 5

8. $(x + 2)^2 + (y - 3)^2 = 25$ çemberi ile $x^2 + (y + 2)^2 = r^2$ çemberi dik kesiştiğine göre r kaçtır?

In case the circle $(x + 2)^2 + (y - 3)^2 = 25$ and the circle $x^2 + (y + 2)^2 = r^2$ are intersecting at right angles, then what is the value of r?

A) $2\sqrt{5}$ B) 4 C) $\sqrt{6}$ D) $\sqrt{5}$ E) 2

PUZA YAYINLARI

www.ztcprep.com

9. $x = 2\cos t - 1$
$y = 2\sin t$
sistemine karşılık gelen çemberin denklemi nedir?

What is the equation of the circle that corresponds to the system $x = 2\cos t - 1$, $y = 2\sin t$?

A) $(x+1)^2 + y^2 = 4$ B) $x^2 + (y+1)^2 = 2$
C) $(x-1)^2 + y^2 = 2$ D) $(x-1)^2 + y^2 = 8$
E) $x^2 + (y-1)^2 = 2$

10. $x^2 + y^2 = 10$ çemberinin parametrik denklemi nedir?

What is the parametric equation of the circle $x^2 + y^2 = 10$?

A) $y = \cos\alpha$
$y = \sin\alpha$
B) $x = \sqrt{10}\cos\alpha$
$y = \sqrt{10}\sin\alpha$
C) $x = 10\cos\alpha$
$y = 10\sin\alpha$
D) $x = 5\cos\alpha$
$y = 5\sin\alpha$
E) $x = 25\cos\alpha$
$y = 25\sin\alpha$

11. $x = 1 + 5\sin\alpha$
$y = -2 + 5\cos\alpha$
sistemine karşılık gelen çemberin denklemi nedir?

What is the equation of the circle that corresponds to the system $x = 1 + 5\sin\alpha$, $y = -2 + 5\cos\alpha$

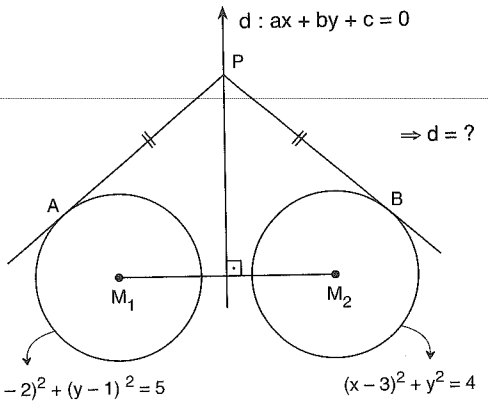
A) $(x-2)^2 + (y+1)^2 = 25$ B) $(x-1)^2 + (y+2)^2 = 25$
C) $(x+1)^2 + (y-2)^2 = 25$ D) $(x-1)^2 + (y-2)^2 = 25$
E) $(x-1)^2 + (y-2)^2 = 25$

12. Denklemleri $x^2 + y^2 - 2x + y - 6 = 0$ ve $x^2 + y^2 + 3x - y - 1 = 0$ olan çemberlerin kuvvet ekseninin denklemi nedir?

What is the equation of the radical axis of the circles with the equations $x^2 + y^2 - 2x + y - 6 = 0$ and $x^2 + y^2 + 3x - y - 1 = 0$?

A) $2y - 5x - 5 = 0$ B) $y - x - 4 = 0$
C) $-x - 5 = 0$ D) $x + 2y - 2 = 0$
E) $2x - y - 6 = 0$

13.



A) $x - y + 2 = 0$ B) $2x - y + 1 = 0$
C) $2y - 2x + 3 = 0$ D) $2x + y - 1 = 0$
E) $2x - 2y - 5 = 0$

14. $x^2 + y^2 - 2x + y - 6 = 0$
$x^2 + y^2 + 3x - 5y - 1 = 0$
çemberlerinin kesim noktalarından geçen doğrunun denklemi nedir?

What is the equation of the line that passes through the intersecting point of $x^2+y^2-2x+y-6=0$, $x^2+y^2+3x-5y-1=0$ circles?

A) $x - 4y - 7 = 0$ B) $5x - 6y + 5 = 0$
C) $5x - 6y - 5 = 0$ D) $x + y - 5 = 0$
E) $-x + 4y - 5 = 0$

15. $x^2 + y^2 = 2$ ve $(x-1)^2 + (y-4)^2 = 1$ çemberlerinin kesim noktalarından ve P(0, 2) noktasından geçen çember denklemi nedir?

What is the equation of the circle that passes through the intersecting points of $x^2 + y^2 = 2$ and $(x-1)^2 + (y-4)^2 = 1$ circles and the point P(0, 2)?

A) $x^2 + y^2 - 2x + y - 1 = 0$
B) $5x^2 + 5y^2 - 24x - 24y + 60 = 0$
C) $x^2 + y^2 - 10x + 10y - 17 = 0$
D) $5x^2 + 5y^2 - 29x - 29y + 11 = 0$
E) $x^2 + y^2 + 2x + 8y - 20 = 0$

16. $x^2 + y^2 - x + y - 1 = 0$
$x^2 + y^2 - 2x + y - 2 = 0$
Çemberlerinin kesim noktalarından geçen doğrunun denklemi nedir?

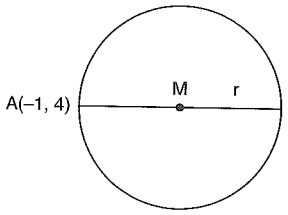
What is the equation of the line that passes through the intersecting point of $x^2 + y^2 - x + y - 1 = 0$, $x^2 + y^2 - 2x + y - 2 = 0$ circles?

A) $x - 4y - 7 = 0$ B) $5x + 4y - 5 = 0$
C) $5x - 6y - 5 = 0$ D) $x + 1 = 0$
E) $-x + 4y - 5 = 0$

PUZA YAYINLARI

www.ztcprep.com

1.

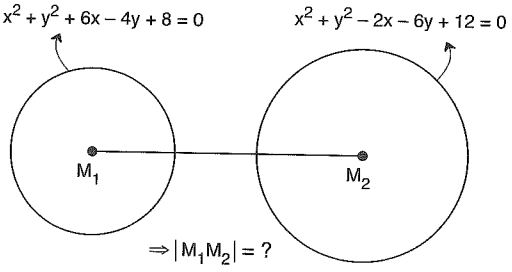


[AB] çaplı çemberin yarıçapı nedir?

What is the radius of circle with a diameter [AB]?

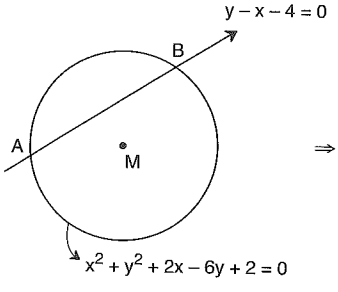
A) $\sqrt{2}$ B) $\sqrt{5}$ C) 4 D) $2\sqrt{5}$ E) $4\sqrt{5}$

2.



A) $2\sqrt{7}$ B) $2\sqrt{5}$ C) $\sqrt{17}$ D) 4 E) $\sqrt{10}$

3.



⇒ |AB| = ?

A) 8 B) $4\sqrt{2}$ C) 4 D) $3\sqrt{2}$ E) 3

4. $(x + 2)^2 + (y – 5)^2 = 26$

çemberine üzerindeki A(–1, 10) noktasında çizilen teget denklemi nedir?

What is the equation of tangent which is drawn from a point A(–1, 10) at the circle $(x + 2)^2 + (y – 5)^2 = 26$?

A) $x + y – 1 = 0$ B) $5x + y – 49 = 0$
C) $5y + x – 49 = 0$ D) $5x + y – 1 = 0$
E) $x + y – 4 = 0$

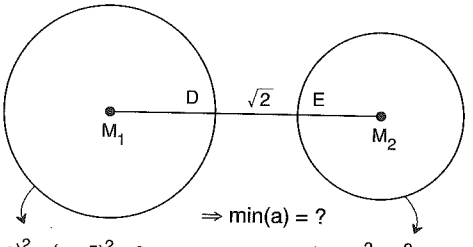
5. $x^2 + y^2 – 4x + 2y + k = 0$

çemberinin yarıçapı 3 br ise k kaçtır?

If the radius of the $x^2 + y^2 – 4x + 2y + k = 0$ circle is 3 units, then what is the value of k?

A) –10 B) – 9 C) – 8 D) – 5 E) – 4

6.



A) – 2 B) –1 C) 1 D) 2 E) 3

7. A(–1, –2) noktasından 2 br uzaklıktakı noktaların geometrik yerinin denklemi nedir?

What is the geometrical locus equation of the points which are at a distance of 2 units from the point A (–1, –2) ?

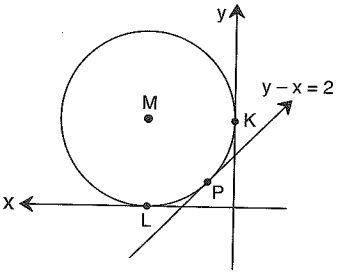
A) $x^2 + y^2 = 4$ B) $(x – 1)^2 + (y + 4)^2 = 4$
C) $(x – 1)^2 + (y + 2)^2 = 4$ D) $(x – 1)^2 + (y + 2)^2 = 2$
E) $(x + 1)^2 + (y + 2)^2 = 4$

8. A(3, 2) noktasından 1 br uzaklıktaki noktaların geometrik yerinin denklemi nedir?

What is the geometrical locus equation of the points which are at a distance of 1 units from the point A (3, 2) ?

A) $(x – 3)^2 + (y – 2) = 1$ B) $x^2 + y^2 = 1$
C) $(x – 2)^2 + (y – 1)^2 = 1$ D) $(x – 4)^2 + (y – 3)^2 = 1$
E) $(x + 2)^2 + (y + 1)^2 = 1$

9.



⇒ M(a, b) = ?

A) (–2, 2) B) $(-\sqrt{2}, \sqrt{2})$
C) $(2-\sqrt{2}, 2+\sqrt{2})$ D) $(-2+\sqrt{2}, 2-\sqrt{2})$
E) $(-2-\sqrt{2}, 2+\sqrt{2})$

PUZA YAYINLARI

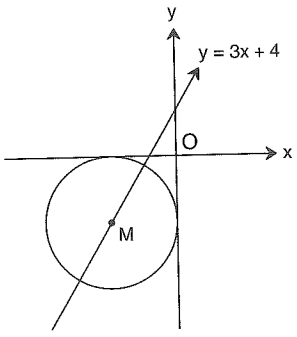
www.ztcprep.com

10. $kx^2 + 2y^2 - (k + 6)x - 16y + 8 = 0$ çemberinin yarıçapı kaçtır?

What is the radius of the $kx^2 + 2y^2 - (k + 6)x - 16y + 8 = 0$ circle?

A) 2 B) 3 C) 4 D) 5 E) 6

11.

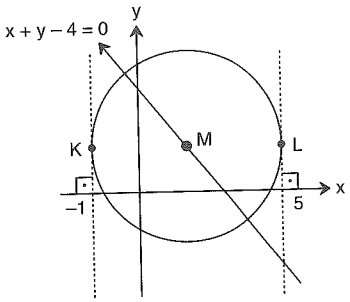


M merkezli çemberin yarıçapı kaç br'dir?

How many unit is the radius of a circle with a center M?

A) 1 B) 2 C) 3 D) 4 E) 5

12.



M merkezli çember

The circle with a center M

$\Rightarrow$ M(a, b) = ?

A) (1, 3) B) (–1, 2) C) (2, 2) D) (1, 4) E) (3, 2)

13. A(0, 3) noktasından $x^2 + y^2 - 4x + 2y + 1 = 0$ çemberine çizilen teget denklemi nedir?

What is the equation of tangent which is drawn from a point A(0, 3) to the $x^2 + y^2 - 4x + 2y + 1 = 0$ circle?

A) $3x + 4y - 3 = 0$ B) $x - y - 2 = 0$

C) $x - 2 = 0$ D) $2x + y - 10 = 0$

E) $y + 3 = 0$

14. A(1,1) noktasının $y = mx + 1$ doğrusuna göre simetrisinin geometrik yer denklemi nedir?

What are geometrical locus which is the symmetry of point A(1, 1) as per the $y = mx + 1$ line?

A) $x^2 + y^2 = 2$

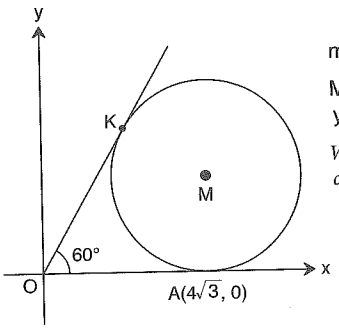
B) $(x - 1)^2 + (y - 2)^2 = 4$

C) $(x - 1)^2 + (y + 2)^2 = 2$

D) $(x - 1)^2 + (y - 1)^2 = 4$

E) $x^2 + y^2 = 4$

15.



$m(\widehat{KOA}) = 60°$

M merkezli çemberin yarıçapı nedir?

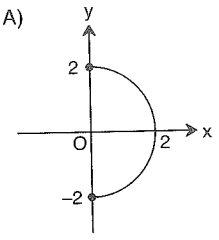
What is the radius of circle with a center M?

A) $2\sqrt{3}$ B) 4 C) $3\sqrt{2}$ D) 5 E) $4\sqrt{3}$

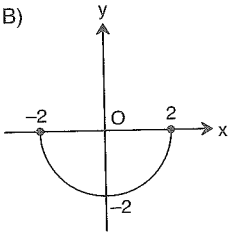
16. $y = \sqrt{4 - x^2}$ denklemine ait grafik aşağıdakilerden hangisidir?

Which is the graph belongs to $y = \sqrt{4 - x^2}$ line equation amongst the following ones?

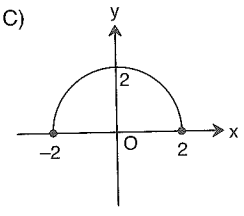
A)



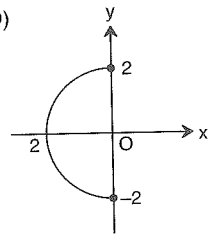
B)



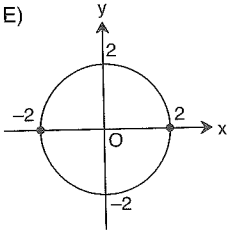
C)



D)



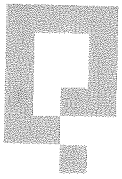
E)



PUZA YAYINLARI

www.ztcprep.com

ZTC زنگنه مجموعه موسسات



ÇEMBER ANALİTİĞİ
Yanıt Anahtarı

ANALYTIC GEOMETRY-CIRCLE
Answer Key

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E	B	E	B	B	A	D	C	D	D	B	A	C	D	E	B

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	D	B	E	D	E	C	C	D	B	C	D	E	D	B	A

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	C	B	D	C	C	E	A	E	E	C	B	B	B	B

TEST 4

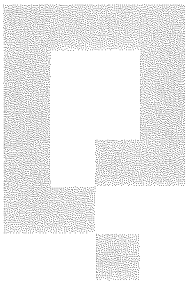
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	C	D	B	D	C	E	A	B	B	A	E	B	E	D

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	C	B	C	E	C	E	A	E	C	B	C	A	D	B	C

www.ztcprep.com

زنگنه ZTC مجموعه موسسات



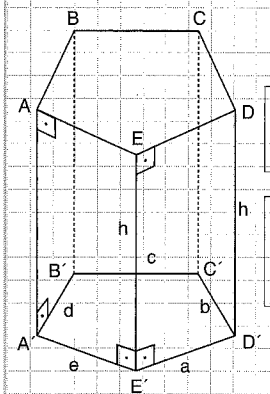
KATI CİSİM

SOLID OBJECT

www.ztcprep.com

ZTC Özellikler

ÖZELLİK|Property 1 — Dik Prizma / *Right Prism*



$V_{(Hacim)}$ = Taban alanı · yükseklik (h)

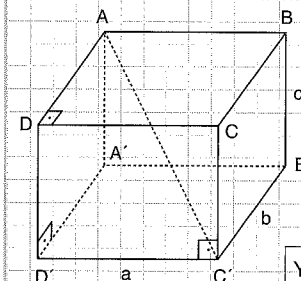
$V_{(Volume)}$ = *Bottom area · height (h)*

Yanal Alan = Taban çevresi · yükseklik

Lateral Area = Bottom circumface · height

= (a + b + c + d + e) · h

ÖZELLİK|Property 2 — Dikdörtgenler Prizması / *Rectangular prism*



$V_{(Hacim)} = a \cdot b \cdot c$

$V_{(Volume)} = a \cdot b \cdot c$

Yanal alan = 2(a + b) · c

Lateral area = 2(a + b) · c

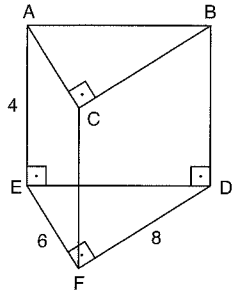
Yüzey Alanı = 2(ab + ac + bc)

Surface area= 2(ab + ac + bc)

Cisim Köşegeni = $|AC'| = \sqrt{a^2 + b^2 + c^2}$

Solid diagonal

1.

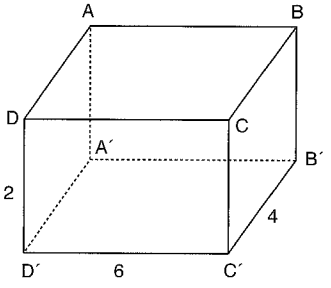


⇒ $V_{(Hacim)}$ = ?

$V_{(Volume)}$ = ?

96

1.



⇒ $V_{(Hacim)}$ = ?

$V_{(Volume)}$ = ?

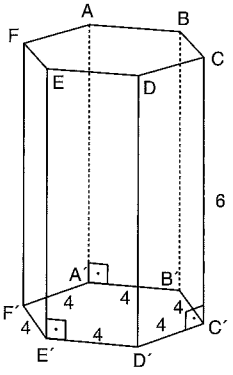
⇒ Yüzey Alanı = ?

Surface Area = ?

⇒ $|BD'|$ = ?

48, 88, $2\sqrt{14}$

2.



ABCDEF altıgen

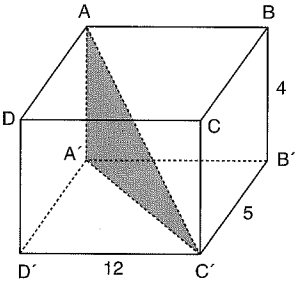
ABCDEF hexagon

⇒ $V_{(Hacim)}$ = ?

$V_{(Volume)}$ = ?

$144\sqrt{3}$

2.



⇒ A(AA´C´) = ?

26

3. Taban çevresi 12 cm ve yüksekliği 6 cm olan dik prizmanın yanal alanı kaç cm^2'dir?

How many cm^2 is the lateral area of a right prism having a bottom circumference of 12 cm and a height of 6 cm?

72

3. Hacmi 100 cm^3 ve yüksekliği 4 cm olan kare dik prizmanın alanı kaç cm^2'dir?

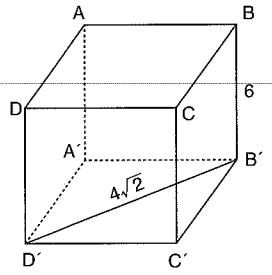
How many cm^2 is the area of a square right prism having a volume of 100 cm^3 and a height of 4 cm?

130

PUZA YAYINLARI

www.ztcprep.com

4.



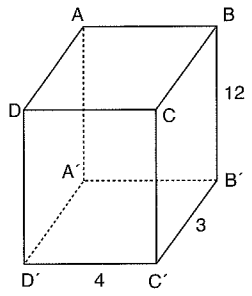
ABCD kare *(square)*

$\Rightarrow V_{(Hacim)} = ?$

$V_{(Volume)} = ?$

96

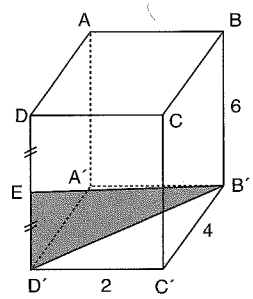
5.



$\Rightarrow |AC'| = ?$

13

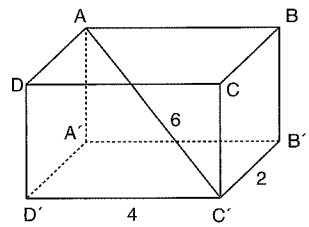
6.



$\Rightarrow A(ED'B') = ?$

$3\sqrt{5}$

7.



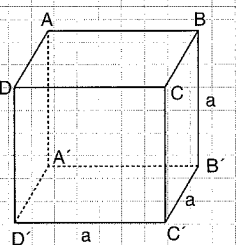
$\Rightarrow V_{(Hacim)} = ?$

$V_{(Volume)} = ?$

32

ÖZELLİK | Property 3

Küp
Cube



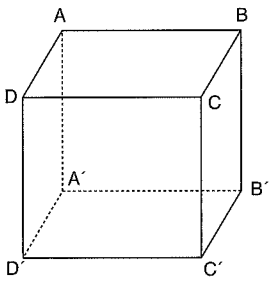
$V_{(Hacim)} = a^3$
$V_{(Volume)} = a^3$

Yanal Alan $= 4a^2$
Lateral area $= 4a^2$

Yüzey Alanı $= 6a^2$
Surface area $= 6a^2$

Cisim Köşegeni $= |AC'| = a\sqrt{3}$
Object diagonal $= |AC'| = a\sqrt{3}$

1.



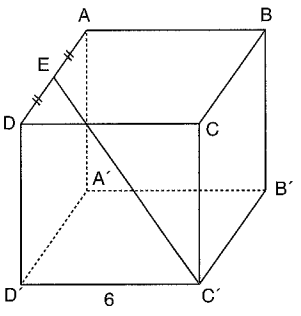
Şekil bir küp
A form cube

$|AC'| = 5\sqrt{3}$ cm

$\Rightarrow V_{(Hacim)} = ?$
$V_{(Volume)} = ?$

125

2.

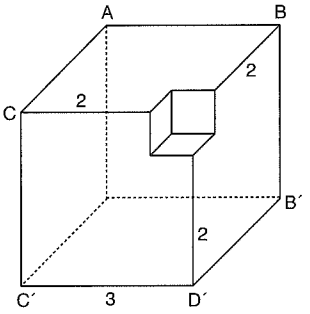


Şekil bir küp
A form cube

$\Rightarrow |EC'| = ?$

9

3.



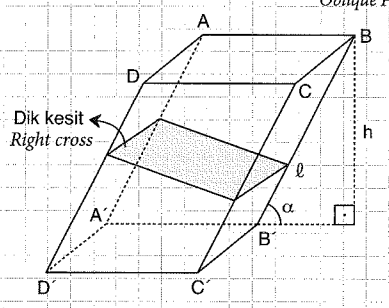
Şekildeki küpün köşesinden bir parça küp çıkartılıyor. Geri kalan cismin yüzey alanı kaç cm^2'dir?

A piece of cube form is cut off at a corner of the cube shown as figure. How many cm^2 is the lateral surface of the remaining solid?

54

PUZA YAYINLARI

ÖZELLİK | Property 4 — Eğik Prizma *Oblique Prism*

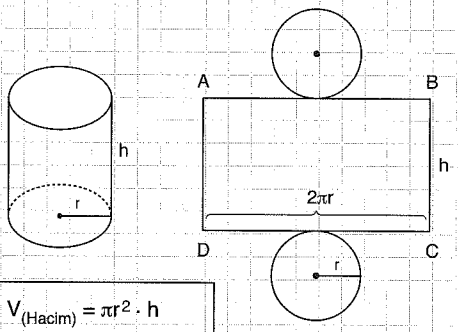


Dik kesit alanı = Taban alanı · sinα
Area of the right cross sectional = Bottom area · sinα

$V_{(Hacim)}$ = Taban alanı · h = Dik kesit alanı · ℓ
$V_{(Volume)}$ = *Bottom area · h = Area of the right cross sectional · ℓ*

Yanal alan = Dik kesit çevresi · ℓ
Lateral area = Circumference of the right cross sectional · ℓ

ÖZELLİK | Property 5 — Silindir *Cylinder*

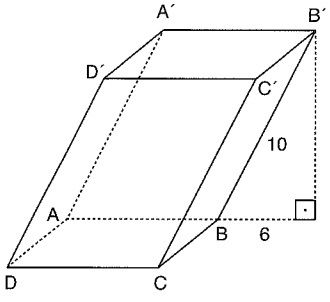


$V_{(Hacim)} = \pi r^2 \cdot h$
$V_{(Volume)} = \pi r^2 \cdot h$

Yanal Alan = $2\pi r \cdot h$
Lateral Area = $2\pi r \cdot h$

Tüm Alan = $2(\pi r \cdot h + \pi r^2)$
Total Area = $2(\pi r \cdot h + \pi r^2)$

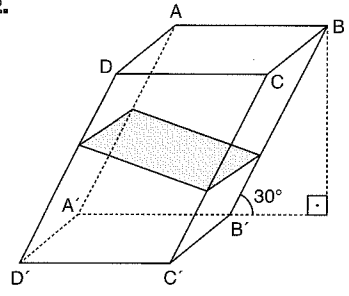
1.



A(ABCD) = 10 br²
⇒ $V_{(Hacim)}$ = ?
$V_{(Volume)}$ = ?

80

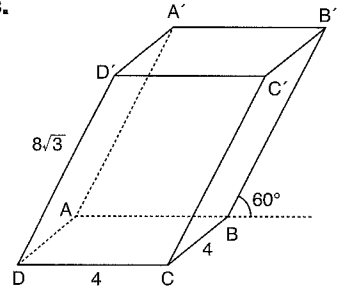
2.



A(ABCD) = 8 br²
⇒ Dik kesit alanı = ?
Area of the right cross sectional = ?

4

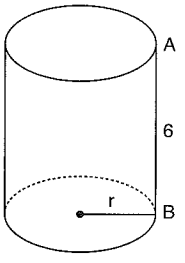
3.



ABCD kare *(square)*
⇒ $V_{(Hacim)}$ = ?
$V_{(Volume)}$ = ?

192

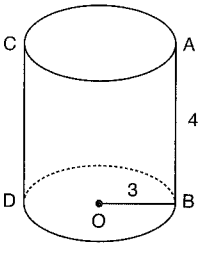
1.



$V_{(Hacim)} = 24\pi$ br³
$V_{(Volume)} = 24\pi br^3$
⇒ r = ?

2

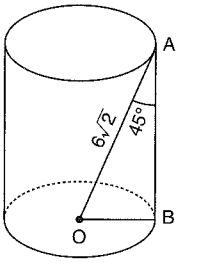
2.



⇒ Yüzey Alanı = ?
Surface Area = ?

42π

3.



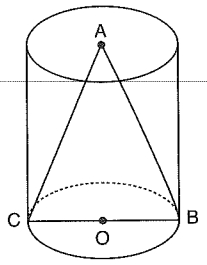
⇒ $V_{(Hacim)}$ = ?
$V_{(Volume)}$ = ?

216π

PUZA YAYINLARI

www.ztcprep.com

4.



ABC eşkenar üçgen

ABC equilateral triangle

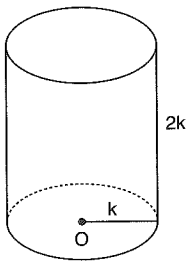
$|AC| = 6$ br

$\Rightarrow V_{(Hacim)} = ?$

$V_{(Volume)} = ?$

$27\sqrt{3}\,\pi$

5.



$V_{(Hacim)} = 128\pi$

$V_{(Volume)} = 128\pi$

$\Rightarrow$ Yüzey Alanı = ?

Surface Area = ?

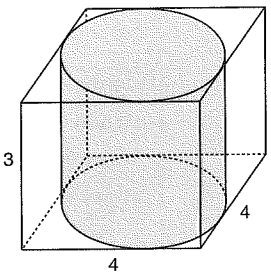
96π

6. Hacmi 18π cm^3 olan 3 cm yarıçapındaki silindirin yanal alanı kaç cm^2'dir?

How many cm^2 is the lateral area of a cylinder having a volume of 18 cm^3 and with a radius of 3 cm?

12π

7.



Dik prizmanın içine silindir yerleştirilmiştir. Silindir ile prizma arasındaki boşluğun hacmi en az kaç cm^3'tür?

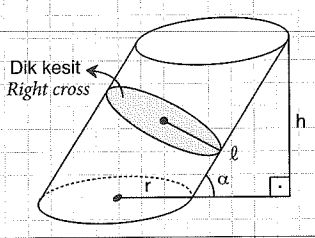
A cylinder is placed inside of a right prism. What is the minimum cm^3 of the space volume between the cylinder and prism?

$48 - 12\pi$

ÖZELLİK|Property 6

Eğik Silindir

Oblique Cylinder



Yanal Alan = Dik kesit çevresi · ℓ

Lateral Area = Circumference of the right cross sectional · ℓ

Dik Kesit Alanı = Taban Alanı · sinα

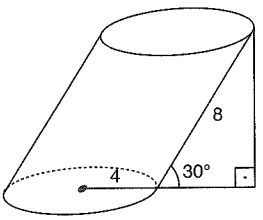
Area of the right cross sectional = Bottom area · sinα

$V_{(Hacim)}$ = Taban Alanı · h = Dik kesit alanı · ℓ

$V_{(Volume)}$ = *Bottom area · h*

= *Area of the right cross sectional · ℓ*

1.

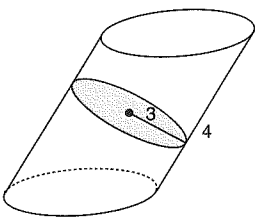


$\Rightarrow V_{(Hacim)} = ?$

$V_{(Volume)} = ?$

64π

2.



$\Rightarrow$ Yanal alan = ?

Lateral area = ?

24π

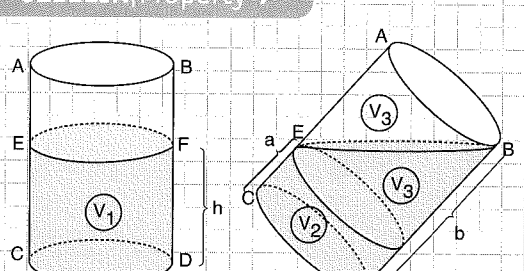
3. Taban düzlemi ile 60° açı yapan eğik silindirin taban alanı 18 cm^2 ise dik kesit alanı kaç cm^2'dir?

If the bottom area of an oblique cylinder making an angle of 60° with the bottom plane is 18 cm^2, how many cm^2 is the right cross sectional area of that cylinder?

$9\sqrt{3}$

PUZA YAYINLARI

ÖZELLİK | Property 7

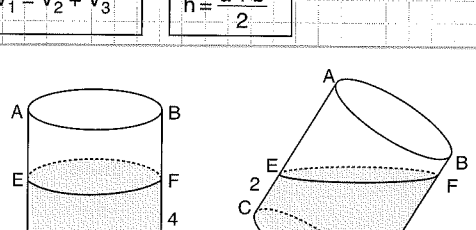


Silindir I. durumdan II. duruma getiriliyor.
Cylinder turns from I. situation to II. situation.

$V_1 = V_2 + V_3$

$h = \frac{a+b}{2}$

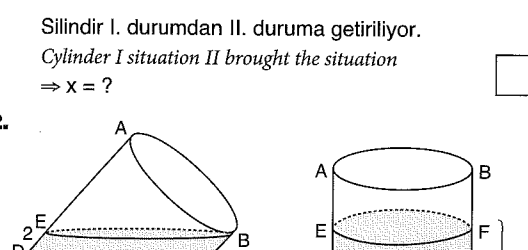
1.



Silindir I. durumdan II. duruma getiriliyor.
Cylinder I situation II brought the situation
$\Rightarrow x = ?$

6

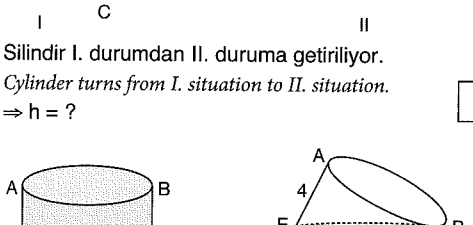
2.



Silindir I. durumdan II. duruma getiriliyor.
Cylinder turns from I. situation to II. situation.
$\Rightarrow h = ?$

6

3.



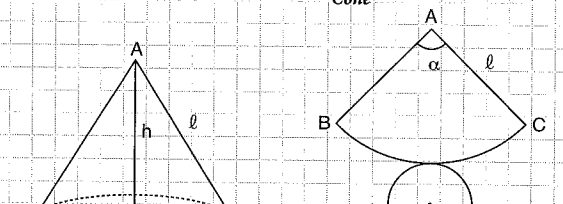
Silindir I. durumdan II. duruma getiriliyor.
Cylinder turns from I. situation to II. situation.
$\Rightarrow \frac{V_1}{V_2} = ?$

$\frac{4}{3}$

PUZA YAYINLARI

ÖZELLİK | Property 8

Koni
Cone



$V_{(Hacim)} = \frac{\pi r^2 \cdot h}{3}$

$V_{(Volume)}$

Yüzey Alanı $= \pi r^2 + \pi r\ell$

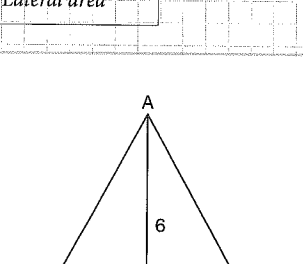
Surface Area

Yanal alan $= \pi r\ell$

Lateral area

$2\pi r = 2\pi\ell \cdot \frac{\alpha}{360°} \Rightarrow r = \ell \cdot \frac{\alpha}{360°}$

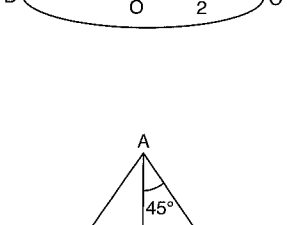
1.



$\Rightarrow V_{(Hacim)} = ?$
$V_{(Volume)} = ?$

8π

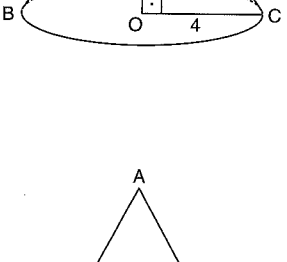
2.



$\Rightarrow$ Yanal Alan = ?
Lateral Area = ?

$16\sqrt{2}\pi$

3.



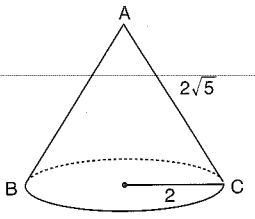
ABC eşkenar üçgen
ABC equilateral triangle
$\Rightarrow$ Yüzey Alanı = ?
Surface Area = ?

27π

PUZA YAYINLARI

www.ztcprep.com

4.

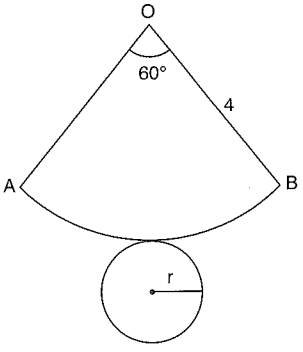


$\Rightarrow V_{(Hacim)} = ?$

$V_{(Volume)} = ?$

$\frac{16\pi}{3}$

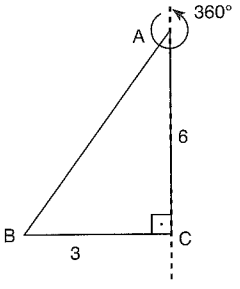
5.



$\Rightarrow r = ?$

$\frac{2}{3}$

6.

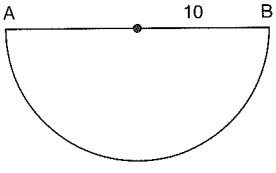


Yandaki şekilde, [AC] kenarı etrafında 360° döndürülmesi ile oluşan şeklin hacmi kaç cm^3'tür?

As a result of a 360° revolving of the figure adjoining around the [AC] edge, how many cm^3 is the volume of the solid formed?

18π

7.

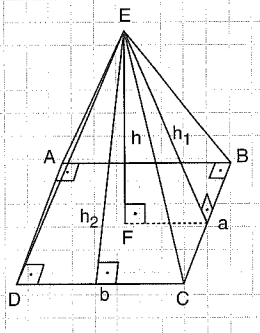


Şekildeki daire dilimi yanal alan olacak şekilde kıvrılarak bir koni oluşturuluyor. Bu koninin hacmi kaç br^3'tür?

As shown in the picture, a slice of circle is curled in order to form a surface area and formed a cone. How many unit^3 is the volume of this cone?

$\frac{125\sqrt{3}\pi}{3}$

ÖZELLİK|Property 9 — Piramit / *Pyramid*

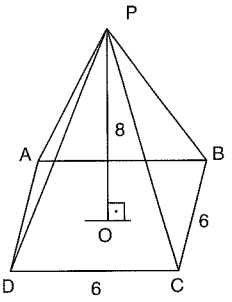


$V_{(Hacim)} = \frac{a \cdot b \cdot h}{3}$ — $V_{(Volume)}$

Yanal Alan $= a \cdot h_1 + b \cdot h_2$ — *Lateral Area*

Yüzey Alanı $= a \cdot h_1 + b \cdot h_2$ — *Surface Area*

1.



Kare piramit

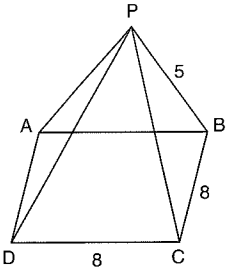
Square pyramid

$|PO| = 8$ br

$\Rightarrow V(P, ABCD) = ?$

96

2.



Kare piramit

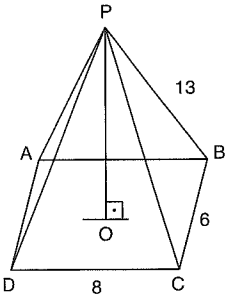
Square pyramid

$\Rightarrow$ Yanal Alan = ?

Lateral Area = ?

48

3.



Dikdörtgen piramit

Rectangle pyramid

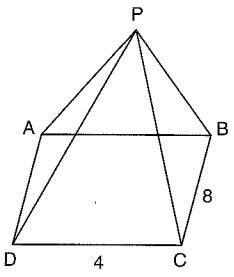
$\Rightarrow V(P, ABCD) = ?$

192

PUZA YAYINLARI

www.ztcprep.com

4.



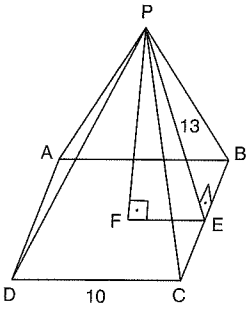
Dikdörtgen piramit
Rectangle pyramid

$V(P, ABCD) = 64\ br^2$

$\Rightarrow |PD| = ?$

$2\sqrt{14}$

5.



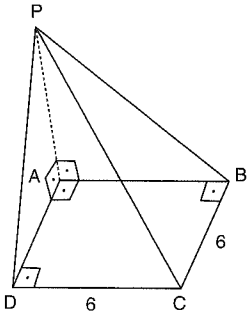
Kare piramit
Square pyramid

$|PE| = 13\ br$

$\Rightarrow V(P, ABCD) = ?$

400

6.



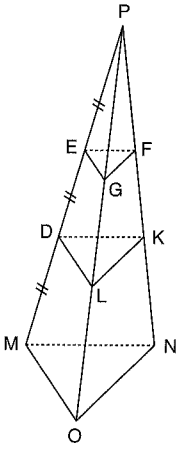
Kare Piramit
Square Pyramid

$V(P,ABCD) = 36\sqrt{3}\ br^3$

$\Rightarrow |PC| = ?$

$3\sqrt{11}$

7.



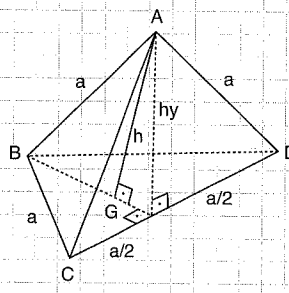
Üçgen Piramit
Triangular Pyramid

$V_{(Hacim)}(EFG, DLK) = 14\ br^3$
V(Volume)

$\Rightarrow V_{(Hacim)}(DLK,MON) = ?$
V(Volume)

38

ÖZELLİK|Property 10 — Düzgün Dörtyüzlü
Regular Tetrahedron



$h = \frac{a\sqrt{6}}{3}$

$h_y = \frac{a\sqrt{3}}{2}$

Yüzey Alanı $= a^2\sqrt{3}$
Surface Area

$V_{(Hacim)} = \frac{a^3\sqrt{2}}{12}$
V (Volume)

1. Bir ayrıtın uzunluğu 4 cm olan düzgün dörtyüzlünün alanı kaç cm^2'dir?

How many cm^2 is the area of a regular tetrahedron having an edge of 4 cm?

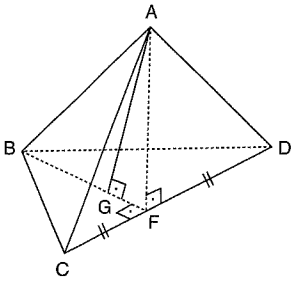
$16\sqrt{3}$

2. Hacmi $18\sqrt{2}\ cm^3$ olan düzgün dörtyüzlünün alanı kaç cm^2'dir?

How many cm^2 is the area of a regular tetrahedron having a volume of $18\sqrt{2}\ cm^3$?

$36\sqrt{3}$

3.



Düzgün dörtyüzlü
Regular tetrahedron

G, BDC'nin ağırlık merkezi
G is the center of gravity of a triangle BDC

$|AF| = 4\sqrt{3}\ br$

$\Rightarrow V(A,BDC) = ?$

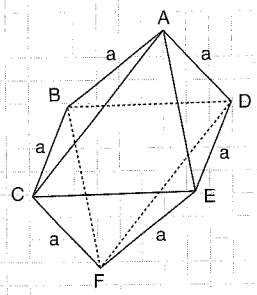
$\frac{128\sqrt{2}}{3}$

PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK | Property 11

Düzgün Sekizyüzlü
Regular Octahedron



$V_{(Hacim)} = \frac{a^3\sqrt{2}}{3}$
$V_{(Volume)}$

Yüzey Alanı = $2a^2\sqrt{3}$
Surface Area

1. Bir ayrıtı 6 cm olan düzgün sekizyüzlünün hacmi kaç cm^3'tür?

How many cm^3 is the volume of a regular octahedron having an edge of 6 cm?

$72\sqrt{2}$

2. Yüzey alanı $32\sqrt{3}$ cm^2 olan düzgün sekizyüzlünün bir ayrıtının uzunluğu kaç cm'dir?

How many cm of one edge of a regular octahedron having a total area of $32\sqrt{3}$ cm^2?

4

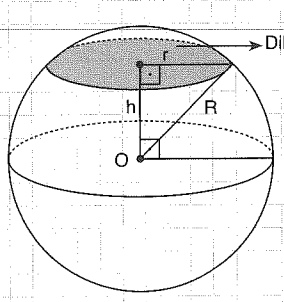
3. Hacmi $9\sqrt{2}$ cm^3 olan düzgün sekizyüzlünün alanı kaç cm^2'tür?

How many cm^2 is the area of a regular octahedron having a volume of $9\sqrt{2}$ cm^3?

$18\sqrt{3}$

ÖZELLİK | Property 12

Küre
Sphere



$V_{(Hacim)} = \frac{4\pi R^3}{3}$
$V_{(Volume)} = \frac{4\pi R^3}{3}$

Yüzey Alanı = $4\pi R^2$
Surface Area = $4\pi R^2$

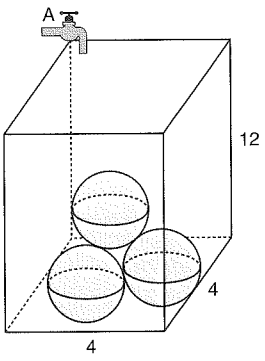
Kesit Alanı = πr^2
Cross Sectional Area = πr^2

1. Yarıçapı 2 cm olan kürenin hacmi kaç cm^3'tür?

How many cm^3 is the volume of a sphere having a radius of 2 cm?

$\frac{32\pi}{3}$

2.



Ayrıtları 4 cm, 4 cm ve 12 cm olan üstü açık prizmaya 2 cm çapındaki 3 bilye atılıyor ve A musluğu açılıyor. Bu prizmanın dolması için musluktan kaç cm^3 su akıtılmalıdır? ($\pi = 3$)

3 pieces of marbles with 2 cm of diameter is dropped into a prism with an opened top having the dimensions / edges of 4 cm, 4 cm and 12 cm and then the tap A is opened. In order to be filled of this prism how many cm^3 of water has to be fed by the tap?

180

3. Yarıçapı 10 cm olan bir kürenin merkezinden 6 cm uzakta alınan kesitin alanı kaç cm^2'dir?

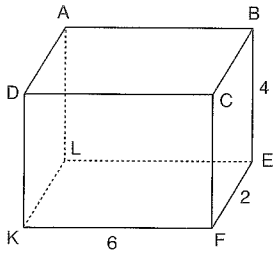
How many cm^2 is the cross sectional area of a sphere cut off 6 cm away from the center of a sphere having a radius of 10 cm?

64π

PUZA YAYINLARI

www.ztcprep.com

1.



$|BE| = 4$ br

$|EF| = 2$ br

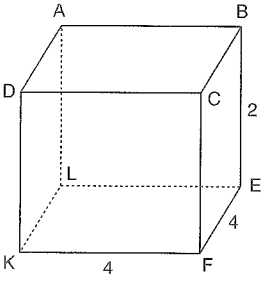
$|KF| = 6$ br

Şekildeki dik prizmanın hacmi kaç br^3'tür?

How many $unit^3$ is the volume of right prism in the figure?

A) 18 B) 24 C) 36 D) 48 E) 96

2.



$|BE| = 2$ br

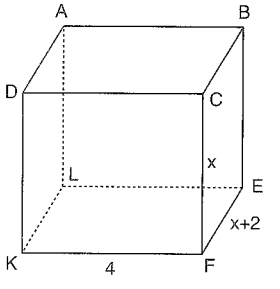
$|EF| = |KF| = 4$ br

Şekildeki kare dik prizmanın alanı kaç br^2'dir?

How many $unit^2$ is the area of right prism in the figure?

A) 20 B) 32 C) 48 D) 60 E) 64

3.



$|KF| = 4$ br

$|CF| = x$

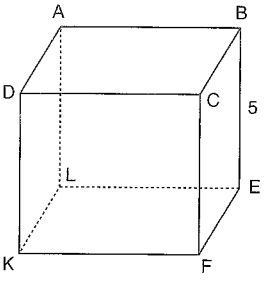
$|FE| = x + 2$

Hacmi 96 br^3 olan dik prizmanın alanı kaç br^2'dir?

How many $unit^2$ is the area of a right prism having a volume of 96 $unit^3$?

A) 32 B) 48 C) 64 D) 96 E) 128

4.



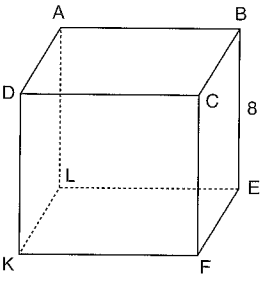
$|BE| = 5$ br

Şekildeki bir ayrıtı 5 br olan küpün hacmi kaç br^3'tür?

How many $unit^3$ is the volume of the cube having an edge of 5 unit as in the figure?

A) 5 B) 10 C) 25 D) 50 E) 125

5.



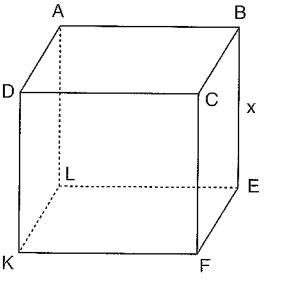
$|BE| = 8$ br

Şekildeki bir ayrıtı 8 br olan küpün alanı kaç br^2'dir?

How many $unit^2$ is the surface area of the cube having an edge of 8 unit as in the figure?

A) 384 B) 256 C) 144 D) 64 E) 48

6.



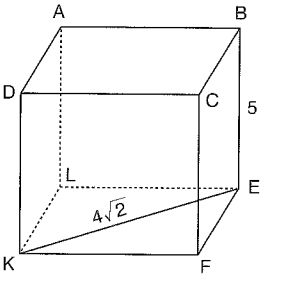
Küpün alanı 96 br^2

The surface area of the cube is 96 $unit^2$

$\Rightarrow |BE| = x = ?$

A) 3 B) 4 C) 5 D) 6 E) 7

7.



$|EK| = 4\sqrt{2}$ br

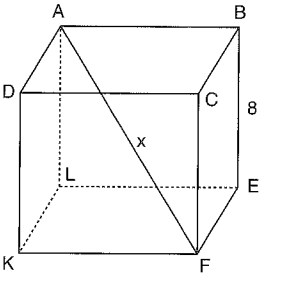
$|BE| = 5$ br

Şekildeki kare dik prizmanın hacmi kaç br^3'tür?

How many $unit^3$ is the volume of square right prism in the figure?

A) 160 B) 150 C) 120 D) 100 E) 80

8.



Bir ayrıtı 8 br olan küp

A cube with an edge of 8 units

$|BE| = 8$ br

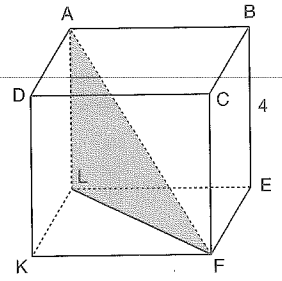
$\Rightarrow |AF| = x = ?$

A) 4 B) $4\sqrt{3}$ C) 8 D) $8\sqrt{3}$ E) 16

PUZA YAYINLARI

www.ztcprep.com

9.



Bir ayrıtı 4 br olan küp

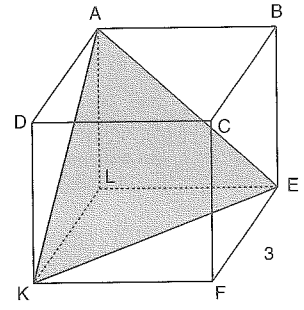
A cube with an edge of 4 units

$|BE| = 4$ br

$\Rightarrow A(ALF) = ?$

A) $4\sqrt{2}$ B) 8 C) $8\sqrt{2}$ D) 16 E) $16\sqrt{2}$

10.



Bir ayrıtı 3 br olan küp

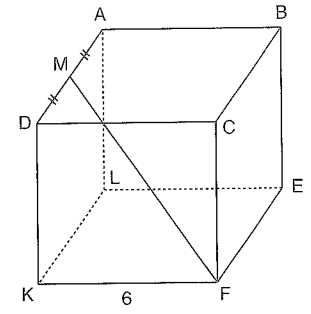
A cube with an edge of 3 units

$|EF| = 3$ br

$\Rightarrow A(AKE) = ?$

A) $\frac{9\sqrt{3}}{4}$ B) $\frac{9\sqrt{3}}{2}$ C) $9\sqrt{3}$ D) $18\sqrt{3}$ E) 54

11.



Bir ayrıtı 6 br olan küp

A cube with an edge of 6 units

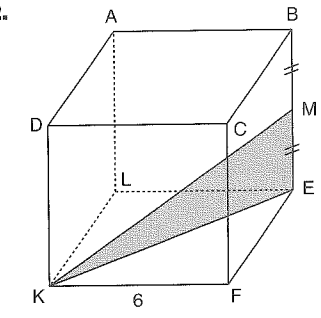
$|KF| = 6$ br

$|DM| = |MA|$

$\Rightarrow |MF| = ?$

A) 9 B) $4\sqrt{5}$ C) $2\sqrt{17}$ D) 7 E) $4\sqrt{3}$

12.



Bir ayrıtı 6 br olan küp

A cube with an edge of 6 units

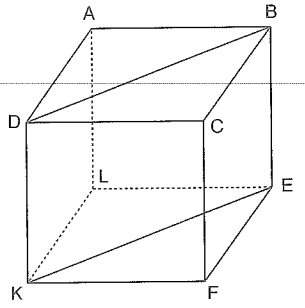
$|KF| = 6$ br

$|BM| = |ME|$

$\Rightarrow A(MEK) = ?$

A) $9\sqrt{2}$ B) 9 C) $4\sqrt{5}$ D) $2\sqrt{17}$ E) $4\sqrt{3}$

13.



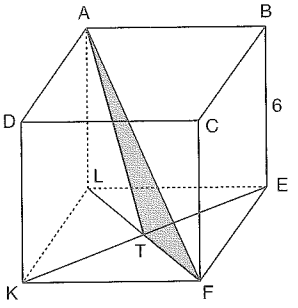
$A(DBEK) = 25\sqrt{2}$ br^2

Şekildeki küpün alanı kaç br^2'dir?

How many unit^2 is the area of the cube in figure?

A) 150 B) 125 C) 120 D) 100 E) 80

14.



Bir ayrıtı 6 br olan küp

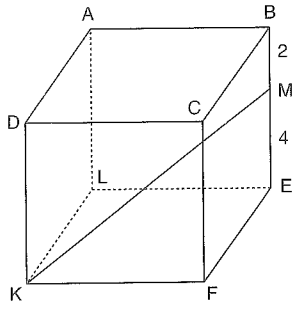
A cube with an edge of 6 units

$|BE| = 6$ br

$\Rightarrow A(ATF) = ?$

A) $18\sqrt{2}$ B) 18 C) $9\sqrt{2}$ D) 9 E) $6\sqrt{2}$

15.



Bir ayrıtı 6 br olan küp

A cube with an edge of 6 units

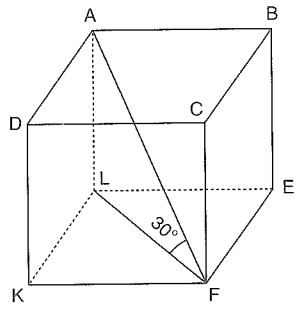
$|BM| = 2$ br

$|ME| = 4$ br

$\Rightarrow |KM| = ?$

A) 10 B) $2\sqrt{22}$ C) $4\sqrt{5}$ D) 8 E) $5\sqrt{2}$

16.



Kare dik prizmanın cisim köşegeni 12 br

The solid diagonal of square right prism is 12 units

$m(\widehat{AFL}) = 30°$

$|AF| = 12$ br

Kare dik prizmanın hacmi kaç br^3'tür?

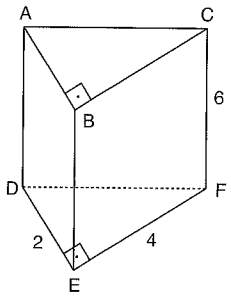
How many unit^3 is the volume of square right prism?

A) 566 B) 484 C) 324 D) 300 E) 256

PUZA YAYINLARI

www.ztcprep.com

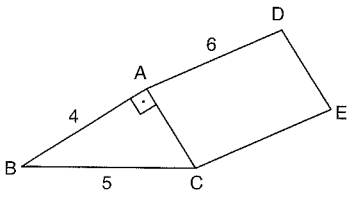
1.



|CF| = 6 br
|EF| = 4 br
|DE| = 2 br
Şekildeki dik üçgen prizmanın hacmi kaç br^3'tür?
How many unit^3 is the volume of right triangular prism in the figure?

A) 96 B) 64 C) 48 D) 24 E) 12

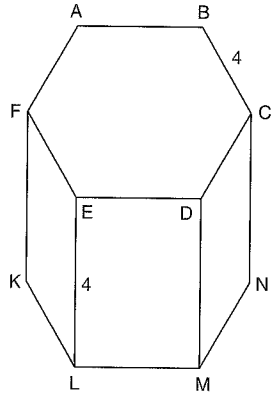
2.



Dik üçgen prizma
Right triangle prism
|BA| = 4 br
|BC| = 5 br
|AD| = 6 br
⇒ $V_{(Hacim)}$ = ?
$V_{(volume)}$ = ?

A) 13 B) 15 C) 18 D) 27 E) 36

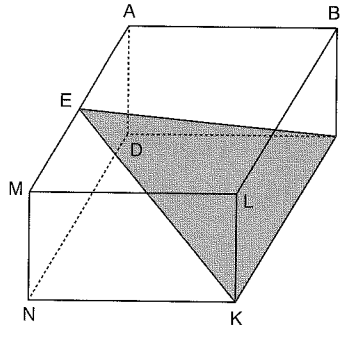
3.



|EL| = |BC| = 4 br
Şekildeki düzgün altıgen prizmanın yan yüzey alanı kaç br^2'dir?
How many unit^2 is the lateral surface area of the regular hexagonal prism in the figure?

A) 128 B) 118 C) 100 D) 96 E) 78

4.



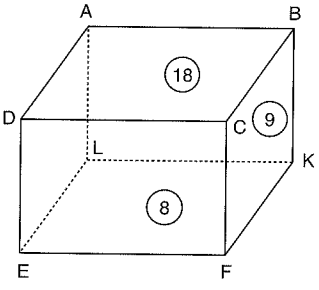
Dikdörtgen prizma
Rectangular prism
|BC| = 2 br
|KC| = 6 br
|NK| = 4 br
⇒ A(EKC) = ?

A) $6\sqrt{5}$ B) $2\sqrt{19}$ C) 8 D) $5\sqrt{2}$ E) 36

5. Taban alanı 30 br^2, taban çevresi 25 br ve yanal alanı 100 br^2 olan dik prizmanın hacmi kaç br^3'tür?
How many unit^3 is the volume of a right prism with a bottom area of 30 unit^2, a bottom circumference of 25 unit and a lateral area of 100 unit^2?

A) 100 B) 108 C) 120 D) 122 E) 144

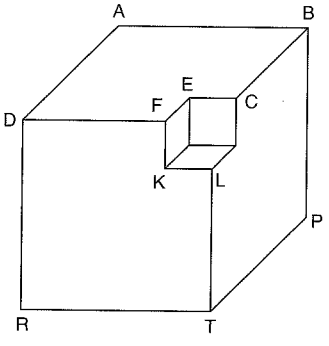
6.



A(ABCD) = 18 br^2
A(BKFC) = 9 br^2
A(DCFE) = 8 br^2
Dikdörtgen prizmanın hacmi kaç br^3'tür?
How many unit^3 is the volume of right rectangular prism?

A) 36 B) 49 C) 60 D) 72 E) 98

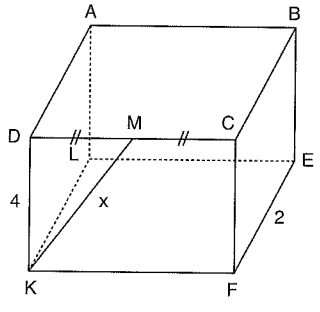
7.



Şekildeki tahtadan oluşan küpün bir köşesinden şekildeki gibi küçük bir küp çıkartılıyor. Geri kalan cismin alanı 150 br^2'dir. Buna göre bu prizmanın hacmi kaç br^3'tür?
A small wooden cube form is cut off at a corner of a cube as indicated in the picture. The area of the remaining solid is 150 unit^2. Thus, how many unit^3 is the volume of this prism?

A) 150 B) 125 C) 120 D) 100 E) 80

8.



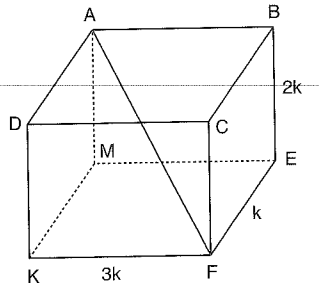
Dikdörtgen prizmanın hacmi 48 br^3
The volume of a rectangular prism is 48 unit^3
|EF| = 2 br
|DK| = 4 br
|DM| = |MC|
⇒ |KM| = x = ?

A) $4\sqrt{5}$ B) $4\sqrt{2}$ C) 5 D) 4 E) 3

PUZA YAYINLARI

www.ztcprep.com

9.



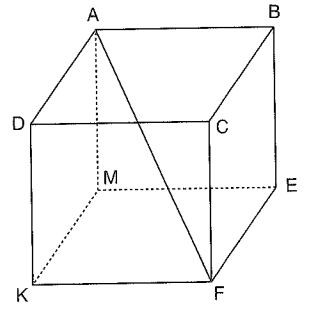
|BE| = 2k
|FE| = k
|KF| = 3k
|AFI= $3\sqrt{14}$ br

Dikdörtgen prizmasının hacmi kaç br^3'tür?

How many unit^3 is the volume of right rectangular prism?

A) 162 B) 196 C) 198 D) 200 E) 208

10.



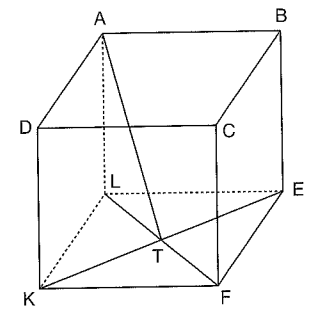
Alanı hacmine eşit olan küpün cisim köşegeni uzunluğu kaç br'dir?

How many unit is the length of a solid diagonal of a cube of which area equals to its volume?

⇒ |AF| = x = ?

A) $3\sqrt{3}$ B) $4\sqrt{3}$ C) $5\sqrt{3}$ D) $6\sqrt{3}$ E) $8\sqrt{3}$

11.



Bir ayrıtının uzunluğu 6 br olan küp verilmiştir.

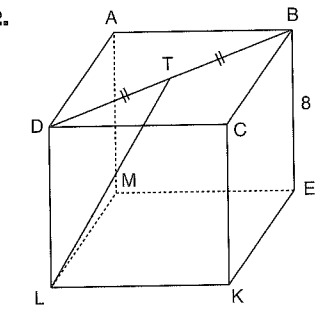
A cube with an edge of 6 units is given

|BE| = 6 br

⇒ |AT| = ?

A) 3 B) $3\sqrt{2}$ C) $3\sqrt{5}$ D) $3\sqrt{6}$ E) $6\sqrt{5}$

12.



Bir ayrıtının uzunluğu 8 br olan küp verilmiştir.

A cube with an edge of 8 units is given

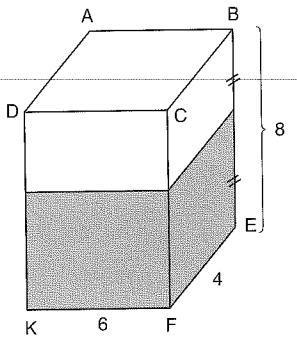
|BE| = 8 br

|DT| = |TB|

⇒ |LT| = ?

A) $8\sqrt{5}$ B) 10 C) $4\sqrt{6}$ D) 9 E) $6\sqrt{2}$

13.

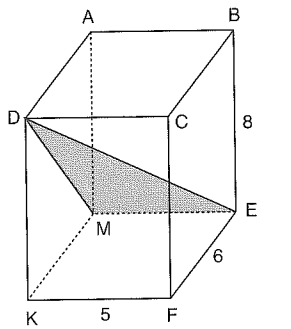


Ayrıtları 4, 6, 8 br olan dikdörtgenler prizmasının yarısı su ile doludur. Bu prizma büyük yüzey üzerine yatırılırsa suyun yüksekliği kaç br olur?

A half of a rectangular prism with the edge lengths of 4, 6, 8 units is filled with water. In case it is laid over the larger surface, how many units of the height of the water level shall be?

A) 1 B) 2 C) 3 D) 4 D) 5

14.



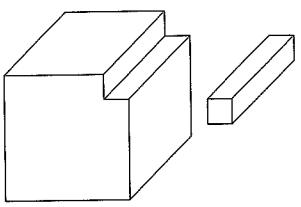
Ayrıtları 8, 6, 5 br olan dikdörtgen prizma

A rectangular prism with the edge lengths of 8, 6, 5 units

⇒ A(DME) = ?

A) 100 B) 80 C) 50 D) 30 E) 25

15.

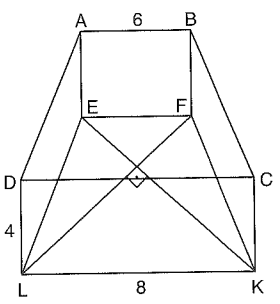


Yandaki şekilde alanı 600 br^2 olan bir küp şekildeki gibi bir köşesinden dik bir kare prizma çıkartıldığında alanı 592 br^2 oluyor. Buna göre çıkartılan dik kare prizmanın hacmi kaç br^3'tür?

At the picture adjoining, when a right square prism is cut off from any vertex, a cube's area of 600unit^2 becomes 592 unit^2. Thus, how many unit^3 is the volume of this right square prism that is cut off?

A) 5 B) 10 C) 15 D) 20 E) 40

16.



[LF] ⊥ [EK]

|AB| = 6 br

|LK| = 8 br

|DL| = 4 br

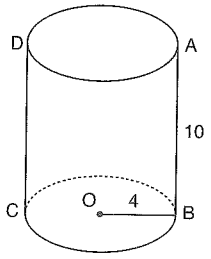
Şekildeki ikizkenar yamuk dik prizmanın hacmi kaç br^3'tür?

How many unit^3 is the volume of a square right prism with a isosceles trapezoidal bottom?

A) 196 B) 168 C) 144 D) 96 E) 84

www.ztcprep.com

1.



|AB| = 10 br

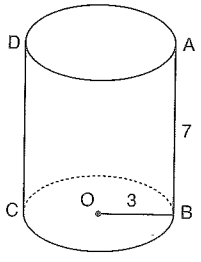
|OB| = 4 br

Şekildeki dik silindirin hacmi kaç br³'tür?

How many unit³ is the volume of right cylinder in the figure?

A) 150π B) 160π C) 180π D) 200π E) 240π

2.



|AB| = 7 br

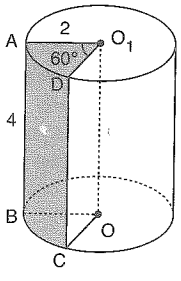
|OB| = 3 br

Şekildeki dik silindirin alanı kaç br²'dir?

How many unit² is the surface area of the right cylinder in the figure?

A) 36π B) 48π C) 56π D) 58π E) 60π

3.



|AB| = 4 br

$|AO_1| = 2$ br

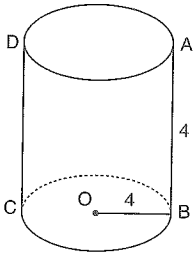
$m(\widehat{AO_1D}) = 60°$

Şekildeki taralı silindir diliminin hacmi kaç br³'tür? (π = 3)

How many unit³ is the volume of a slice of a cylinder as traced in figure? (π = 3)

A) 8 B) 12 C) 16 D) 20 E) 24

4.



|OB| = 4 br

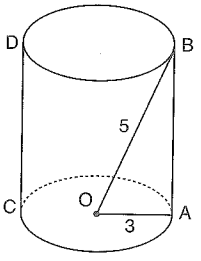
|BA| = 4 br

Şekildeki dik silindirin yanal alanı kaç br²'dir?

How many unit² is the lateral surface area of the right cylinder in the figure?

A) 64π B) 32π C) 16π D) 8π E) 4π

5.



|OB| = 5 br

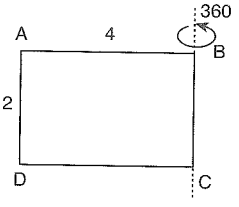
|OA| = 3 br

Şekildeki dik silindirin hacmi kaç br³'tür?

How many unit³ is the volume of right cylinder in the figure?

A) 64π B) 48π C) 45π D) 36π E) 27π

6.



|AD| = 2 br

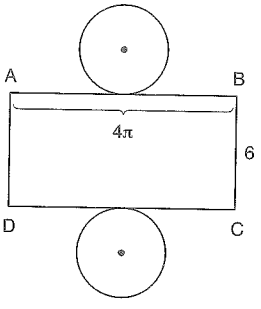
|AB| = 4 br

ABCD dikdörtgenini [BC] kenarının etrafında 360° döndürülmesi ile oluşan şeklin hacmi kaç br³'tür?

As a result of a 360° revolving of an ABCD rectangle around its [BC] edge, how many unit³ is the volume of the solid thus formed?

A) 16π B) 24π C) 32π D) 48π E) 64π

7.



ABCD dikdörtgen

ABCD rectangle

|AB| = 4π

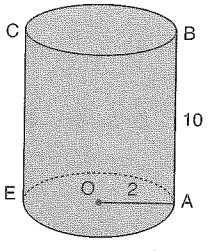
|BC| = 6 br

Şeklin birleştirilmesi ile oluşan silindirin hacmi kaç br³'tür?

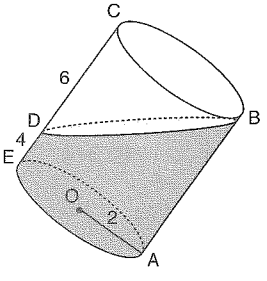
How many unit³ is the volume of the cylinder formed as aggregating the figure?

A) 6π B) 12π C) 18π D) 24π E) 30π

8.



Şekil I / *Figure I*



Şekil II / *Figure II*

|AB| = 10 br , |OA| = 2 br , |DE| = 4 br , |DC| = 6 br

Şekilde içi su ile dolu bir dik silindir Şekil I'deki konumdan Şekil II'deki konuma getirildiğinde suyun bir kısmı dökülüyor. Buna göre Şekil II'deki suyun hacmi kaç br³'tür?

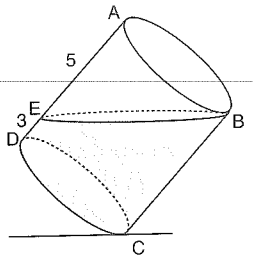
When a right cylinder filled with water inside as in figure is put the position indicated in Figure I to the position indicated in Figure II some amount of water is dropped. According to this how many unit³ of the volume of the water in Figure II?

A) 40π B) 36π C) 32π D) 30π E) 28π

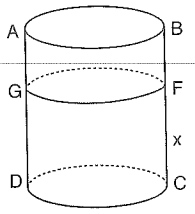
PUZA YAYINLARI

www.ztcprep.com

9.



Şekil I / Figure I



Şekil II / Figure II

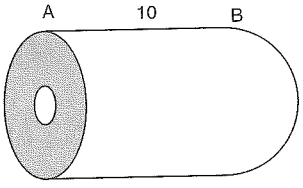
Silindir I. durumdan II. duruma getiriliyor.

Cylinder turns from I. situation to II. situation.

$|AE| = 5$ br , $|ED| = 3$ br $\Rightarrow |FC| = x = ?$

A) 3 B) 4 C) 4,5 D) 5 E) 5,5

10.



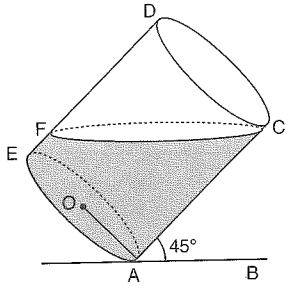
$|AB| = 10$ br

Yarıçapı 4 br ve 6 br olan iki borunun arasına su doldurulmak isteniyor. Bunun için kaç br^3 suya ihtiyaç vardır?

It is required to fill water between two pipes having a radius of 4 units and 6 units, how many $unit^3$ of water is required for that?

A) 200π B) 166π C) 160π D) 96π E) 20π

11.



$|EF| = 2$ br

$|OA| = 4$ br

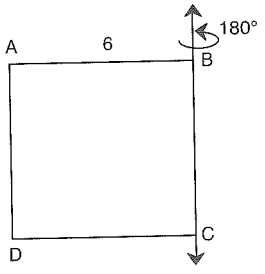
$m(\widehat{CAB}) = 45°$

Silindirin içindeki suyun hacmi kaç br^3'tür?

How many $unit^3$ is the volume of water in figure?

A) 12π B) 24π C) 48π D) 96π E) 100π

12.



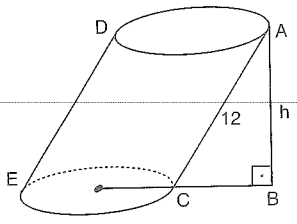
$|AB| = 6$ br

ABCD karesi [BC] doğrusu etrafında 180° döndürülmesi ile oluşan şeklin hacmi kaç br^3'tür?

How many $unit^3$ is the volume of the solid formed by revolving 180° of an ABCD square around [BC] line?

A) 216π B) 240π C) 120π D) 60π E) 30π

13.



$[AB] \perp [CB]$

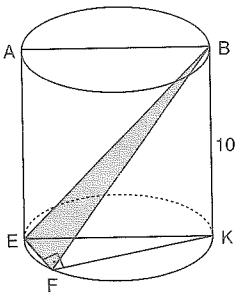
Taban alanı 30 br^2, dik kesit alanı 20 br^2 ve eğik silindirin yanal ayrıtı 12 br'dir.

The bottom area is 30 $unit^2$, the right cross sectional area is 20 $unit^2$ and, the lateral edge of an oblique cylinder is 12 unit.

$\Rightarrow |AB| = ?$

A) 12 B) 10 C) 9 D) 8 E) 6

14.



$[EF] \perp [FK]$

$[AB] // [EK]$

$|EF| = 6$ br

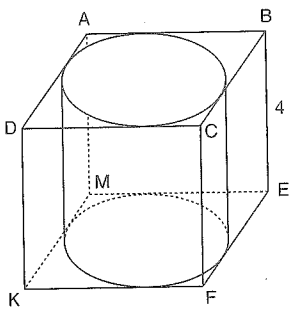
$|FK| = 8$ br

$|BK| = 10$ br

$\Rightarrow A(EFB) = ?$

A) $6\sqrt{41}$ B) $30\sqrt{2}$ C) 30 D) $3\sqrt{41}$ E) 24

15.



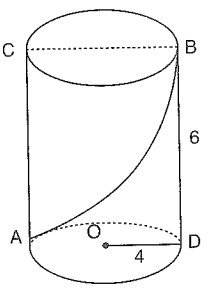
$|BE| = 4$ br

Şekildeki küpün içine yerleştirilecek en büyük hacimli silindirin yüzey alanı kaç br^2'dir?

How many $unit^2$ is the area of a cylinder with maximum volume, placed in a cube in figure?

A) 60π B) 48π C) 42π D) 40π E) 24π

16.



$|OA| = 4$ br

$|AB| = 6$ br

A noktasından B noktasına gitmek isteyen bir karıncanın alacağı en kısa mesafe kaç br'dir? ($\pi = 3$)

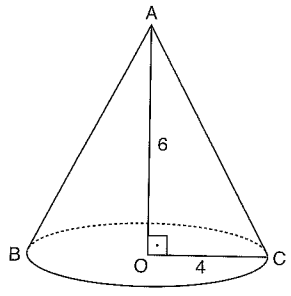
How many units is the shortest distance for an ant that wants to go from point A to point B? ($\pi = 3$)

A) $12\sqrt{5}$ B) 12 C) $6\sqrt{5}$ C) $4\sqrt{3}$ D) 6

PUZA YAYINLARI

www.ztcprep.com

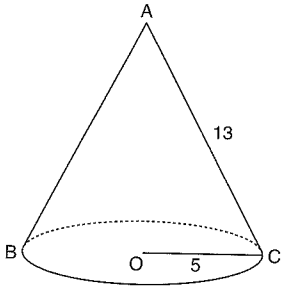
1.



[AO] ⊥ [OC]
|AO| = 6 br
|OC| = 4 br
Şekildeki dik koninin hacmi kaç br³'tür?
How many unit³ is the volume of right cone in the figure?

A) 24π B) 32π C) 48π D) 64π E) 96π

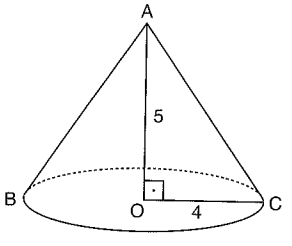
2.



|OC| = 5 br
|AC| = 13 br
Şekildeki dik koninin hacmi kaç br³'tür?
How many unit³ is the volume of right cone in the figure?

A) 100π B) 150π C) 200π D) 300π E) 325π

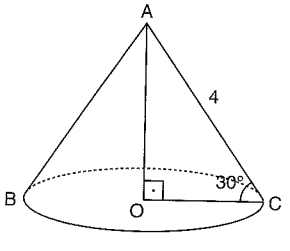
3.



[AO] ⊥ [OC]
|AO| = 5 br
|OC| = 4 br
Şekildeki dik koninin yanal alanı kaç br²'dir?
How many unit² is the lateral area of the right cone in the figure?

A) 12π B) 16π C) 20π D) $4\sqrt{41}\pi$ E) 30π

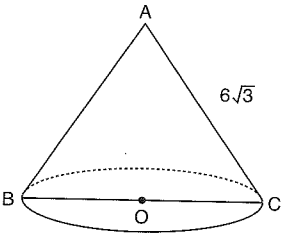
4.



[AO] ⊥ [OC]
|AC| = 4 br
m(ACO) = 30°
Şekildeki dik koninin hacmi kaç br³'tür?
How many unit³ is the volume of right cone in the figure?

A) 2π B) 4π C) 8π D) 10π E) 12π

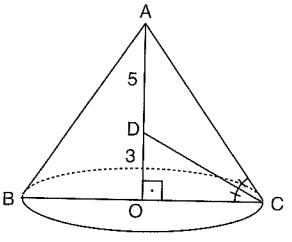
5.



ABC eşkenar üçgen
ABC equilateral triangle
|AC| = $6\sqrt{3}$
Şekildeki O merkezli koninin alanı kaç br² dir?
How many unit² is the area of cone with a center O in the figure?

A) 27π B) $27\pi + 3\sqrt{3}\pi$ C) 81π D) 100π E) 144π

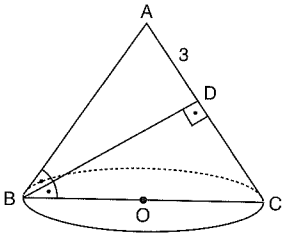
6.



m(ACD) = m(DCB)
|AD| = 5 br
|DO| = 3 br
Şekildeki O merkezli koninin hacmi kaç br³ tür?
How many unit³ is the volume of cone with a center O in the figure?

A) 12π B) 48π C) 71π D) 96π E) 100π

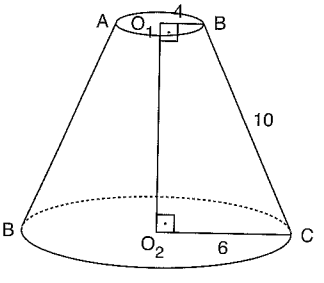
7.



m(ABD) = m(DBC)
[BD] ⊥ [AC]
|AD| = 3 br
Şekildeki O merkezli koninin hacmi kaç br³'tür?
How many unit³ is the volume of right cone in the figure?

A) 9π B) $9\sqrt{3}\pi$ C) 27π D) 81π E) 90π

8.



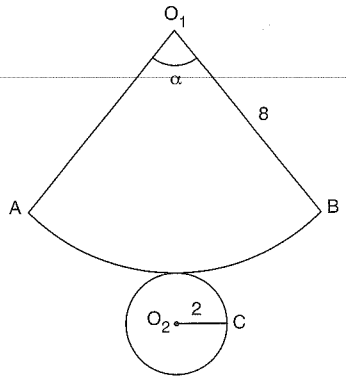
O_1 ve O_2 merkezli çemberler
Circles with O_1 and O_2 center points
|O_1B| = 4 br
|O_2C| = 6 br
|BC| = 10 br
Şekildeki kesik koninin yanal alanı kaç br²'dir?
How many unit² is the lateral area of a truncated cone in the figure?

A) 5π B) 10π C) 25π D) 50π E) 100π

PUZA YAYINLARI

www.ztcprep.com

9.



Şekildeki açık koni

Open cone in figure

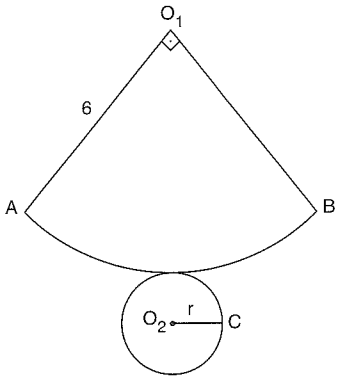
$|O_1B| = 8$ br

$|O_2C| = 2$ br

$\Rightarrow m(\widehat{AO_1B}) = \alpha = ?$

A) 30 B) 45 C) 60 D) 75 E) 90

10.



Şekildeki açık koni

Open cone in figure

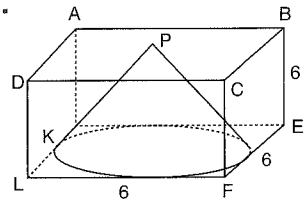
$m(\widehat{AO_1B}) = 90°$

$|O_1A| = 6$ br

$\Rightarrow |O_2C| = r = ?$

A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3

11.



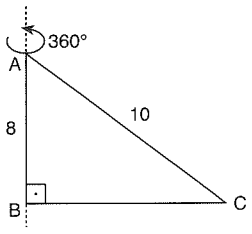
$|LF| = |FE| = |BE| = 6$ br

Küpün içine yerleştirilmiş en büyük hacimli koninin tüm alanı kaç br^2 dir?

How many unit^2 is the area of a cone with maximum volume, placed in a cube in figure?

A) 9π B) 18π C) $9\pi + 9\sqrt{3}\pi$ D) $27\pi + 9\sqrt{3}\pi$ E) 36π

12.



[AB] ⊥ [BC]

$|AB| = 8$ br

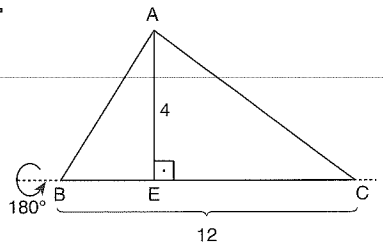
$|AC| = 10$ br

Şekildeki dik üçgenin [AB] kenarı etrafında 360° döndürülmesi ile oluşan şeklin yüzey alanı kaç br^2'dir?

As a result of a 360° revolving of a right-angled triangle around its [AB] edge, how many unit^2 is the surface area of the figure thus formed?

A) 48π B) 96π C) 128π D) 288π E) 384π

13.



[AE] ⊥ [BC]

$|AE| = 4$ br

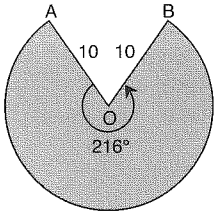
$|BC| = 12$ br

Şekildeki ABC üçgeninin [BC] kenarı etrafında 180° döndürülmesi ile oluşan şeklin hacmi kaç br^3'tür?

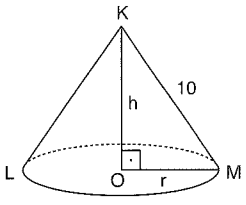
As a result of an 180° revolving of the ABC triangle adjoining around the [BC] edge, how many unit^3 is the volume of the solid formed?

A) 32π B) 48π C) 64π D) 72π E) 96π

14.



Şekil I / Figure I



Şekil II / Figure II

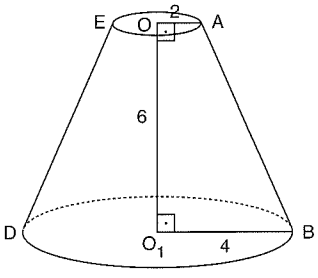
$|AO| = |OD| = |KM| = 10$ br

Şekil I'deki daire yanal alan olacak şekilde kıvrılarak Şekil II'deki koni oluşturuluyor. Buna göre Şekil II'deki koninin hacmi kaç br^3'tür?

A slice of a circle in Figure I is curled so as to form a lateral and thus a cone as in Figure II is formed. Accordingly how many unit^3 is the volume of the cone in Figure II?

A) 10π B) 90π C) 92π D) 96π E) 108π

15.



[AO] ⊥ [OO$_1$]

[OO$_1$] ⊥ [O$_1$B]

$|OA| = 2$ br

$|OO_1| = 6$ br

$|O_1B| = 4$ br

Şekildeki kesik koninin hacmi kaç br^3 tür?

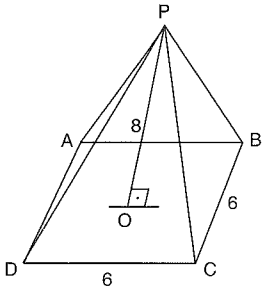
How many unit^3 is the volume of truncated cone in the figure?

A) 8π B) 24π C) 32π D) 48π E) 56π

PUZA YAYINLARI

www.ztcprep.com

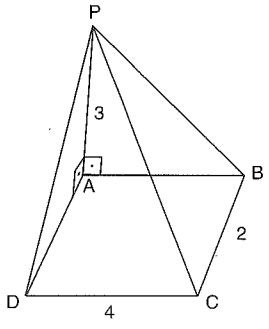
1.



(P, ABCD) kare dik piramit
(P, ABCD) square right pyramid
$|BC| = |DC| = 6$ br
$|PO| = 8$ br
Şekildeki piramitin hacmi kaç br^3 tür?
How many unit^3 is the volume of the pyramid in the figure?

A) 148 B) 96 C) 72 D) 56 E) 48

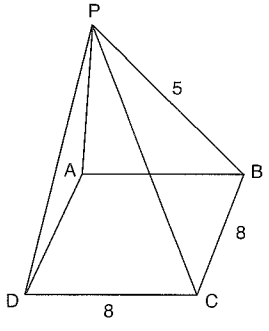
2.



ABCD dikdörtgen
ABCD rectangle
$[PA] \perp |AD]$
$[PA] \perp [AB]$
$|PA| = 3$ br
$|BC| = 2$ br
$|DC| = 4$ br
Şekildeki piramitin hacmi kaç br^3 tür?
How many unit^3 is the volume of the pyramid in the figure?

A) 6 B) 8 C) 12 D) 24 E) 36

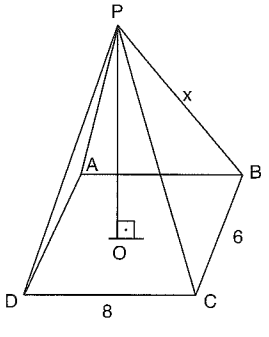
3.



(P, ABCD) kare dik piramit
(P, ABCD) square right pyramid
$|BC| = |DC| = 8$ br
$|PB| = 5$ br
Şekildeki piramitin yanal yüzey alanı kaç br^2 dir?
How many unit^2 in the lateral surface area of pyramid in the figure?

A) 24 B) 32 C) 36 D) 42 E) 48

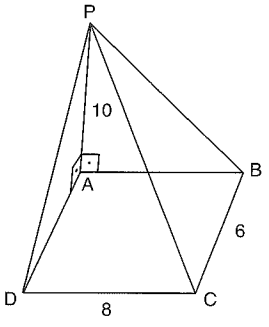
4.



(P, ABCD) dikdörtgen piramit *(regtangle pyramid)*
$|BC| = 6$ br
$|DC| = 8$ br
$|PO| = 12$ br
$\Rightarrow |PB| = x = ?$

A) 5 B) 6 C) 8 D) 10 E) 13

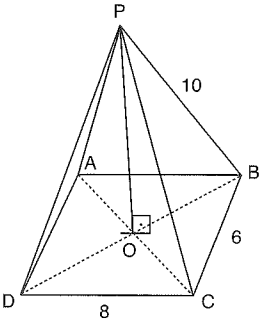
5.



$[PA] \perp [AB]$
$[PA] \perp [AD]$
ABCD dikdörtgen
ABCD rectangle
$|PA| = 10$ br
$|BC| = 6$ br
$|DC| = 8$ br
$\Rightarrow |PC| = ?$

A) 6 B) 8 C) 10 D) $8\sqrt{2}$ E) $10\sqrt{2}$

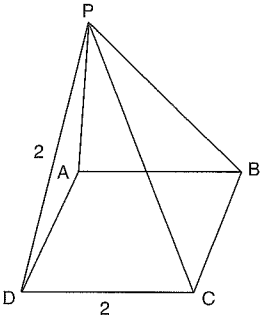
6.



(P, ABCD) dikdörtgen piramit *(regtangle pyramid)*
$|BC| = 6$ br
$|DC| = 8$ br
$|PB| = 10$ br
$\Rightarrow |PO| = ?$

A) 6 B) 8 C) $5\sqrt{3}$ D) $10\sqrt{2}$ E) 13

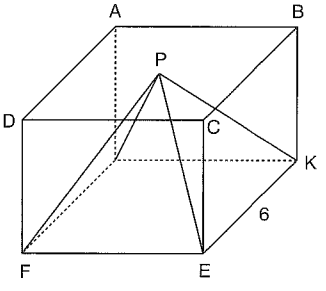
7.



(P, ABCD) kare piramit
(square right pyramid)
$|DC| = |PD| = 2$ br
Şekildeki kare dik piramit yüzey alanı kaç br^2 dir?
How many unit^2 is the surface area of the square right pyramid in figure?

A) 8 B) 16 C) $4+2\sqrt{3}$
D) $4+4\sqrt{3}$ E) $4-\sqrt{3}$

8.



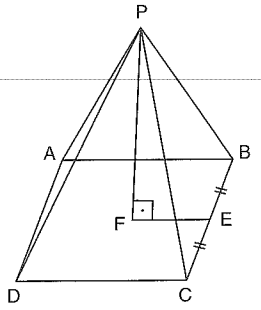
Küpün içerisine yerleştirilmiş en büyük hacimli piramitin hacmi kaç br^3 tür?
$|EK| = 6$ br
How many unit^3 is the volume of a pyramid with maximum volume, placed in a cube?

A) 36 B) 54 C) 72 D) 108 E) 124

PUZA YAYINLARI

www.ztcprep.com

9.



$|EB| = |EC|$

$[PF] \perp [FE]$

$|PB| = 6$ br

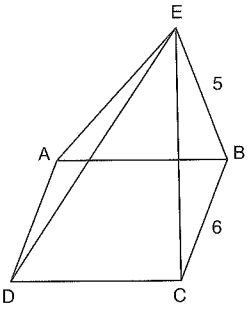
$|BC| = 4$ br

Şekildeki kare dik piramitin hacmi kaç br^3'tür?

How many unit^3 is the volume of square right pyramid in the figure?

A) 64 B) 32 C) $24\sqrt{7}$ D) 28 E) $16\sqrt{7}$

10.



$|EB| = 5$ br

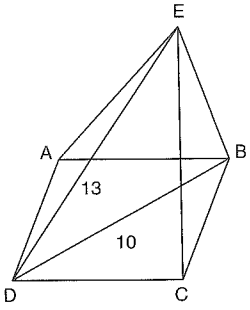
$|BC| = 6$ br

Şekildeki kare dik piramitin yüzey alanı kaç br^2'dir?

How many unit^2 is the surface area of square right pyramid in the figure?

A) 48 B) 60 C) 84 D) 90 E) 96

11.



$|DE| = 13$ br

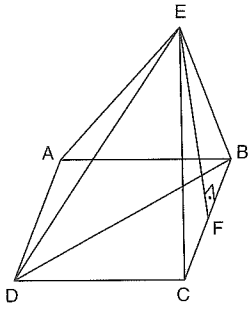
$|DB| = 10$ br

Şekildeki kare dik piramitin hacmi kaç br^3'tür?

How many unit^3 is the volume of square right pyramid in the figure?

A) 650 B) 600 C) 480 D) 400 E) 200

12.



$[EF] \perp [BC]$

$|EF| = 13$ br

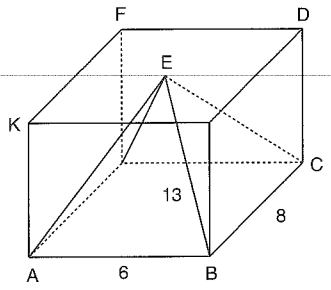
Ç(ABCD) = 40 br

Şekildeki kare dik piramidin hacmi kaç br^3'tür?

How many unit^3 is the volume of square right pyramid in the figure?

A) 1300 B) 1200 C) $\frac{1300}{3}$ D) 360 E) 260

13.



$|AB| = 6$ br

$|BC| = 8$ br

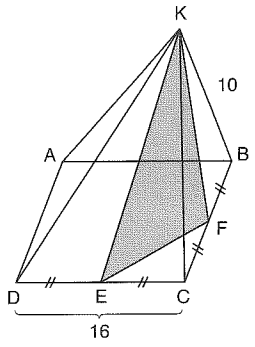
$|EB| = 13$ br

Dikdörtgen prizmanın içine yerleştirilen piramidin hacmi kaç br^3'tür?

How many unit^3 is the volume of a pyramid placed in a rectangular prism?

A) 192 B) 128 C) 92 D) 84 E) 64

14.



ABCD kare

ABCD square

$|KB| = 10$ br

$|DC| = 16$ br

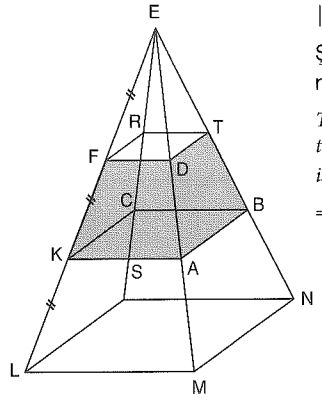
$|BF| = |FC|$

$|DE| = |EC|$

$\Rightarrow$ A(KEF) = ?

A) $32\sqrt{2}$ B) $20\sqrt{2}$ C) $16\sqrt{2}$ D) $8\sqrt{2}$ E) $6\sqrt{2}$

15.



$|EF| = |FK| = |KL|$

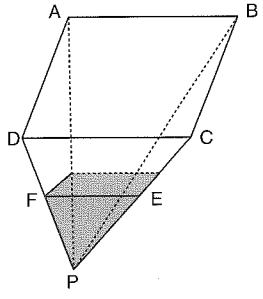
Şekilde taralı kesik piramidin hacmi 35 br^3'tür.

The volume of the shaded truncated pyramid in figure is 35 unit^3.

$\Rightarrow$ V(KABC, LMTS) = ?

A) 105 B) 95 C) 90 D) 80 E) 75

16.



Şekildeki yarıya kadar su dolu dik piramidin dolması için 49 br^3 daha suya ihtiyaç vardır. Buna göre piramidin hacmi kaç br^3'tür?

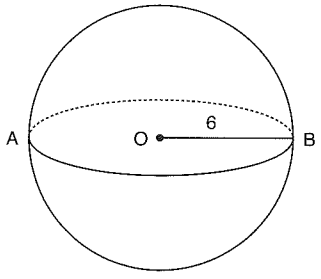
In order to fill the right pyramid completely that is half-full as shown in figure requires 49 unit^3 of water more. Thus, how many unit^3 is the volume of this pyramid?

A) 98 B) 70 C) 63 D) 56 E) 52

PUZA YAYINLARI PUZA YAYINLARI PUZA YAYINLARI

www.ztcprep.com

1.



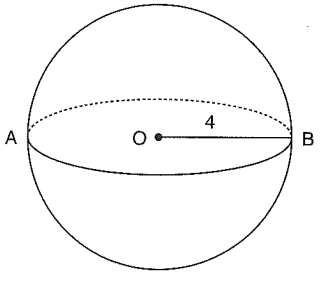
|OB| = 6 br

Şekildeki kürenin hacmi kaç br^3'tür? ($\pi = 3$)

How many unit^3 is the volume of sphere in the figure? ($\pi = 3$)

A) 1152 B) 952 C) 864 D) 642 E) 384

2.



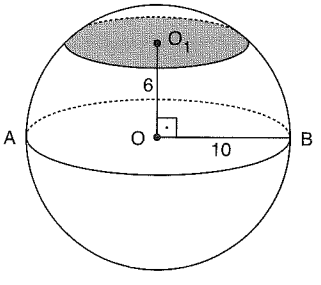
|OB| = 4 br

Şekildeki kürenin yüzey alanı kaç br^2'dir?

How many unit^2 is the surface area of the sphere in figure?

A) 128π B) 96π C) 72π D) 64π E) 56π

3.



[O$_1$O] ⊥ [OB]

|O$_1$O| = 6 br

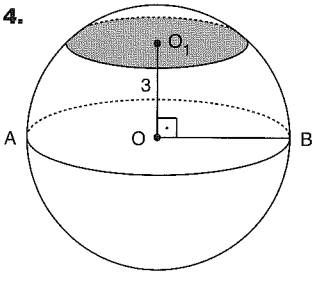
|OB| = 10 br

Şekildeki taralı kesit alan kaç br^2'dir?

How many unit^2 is the shaded surface area in the figure?

A) 16π B) 25π C) 36π D) 49π E) 64π

4.



[O$_1$O] ⊥ [OB]

|O$_1$O| = 3 br

Dik kesit alanı 9π dir.

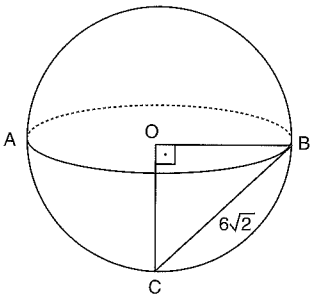
Right cross sectional area is 9π.

Şekildeki kürenin hacmi kaç br^3'tür?

How many unit^3 is the volume of sphere in figure?

A) $72\sqrt{2}\,\pi$ B) $64\sqrt{2}\,\pi$ C) $56\sqrt{2}\,\pi$ D) $48\sqrt{2}\,\pi$ E) $36\sqrt{2}$

5.



[BO] ⊥ [OC]

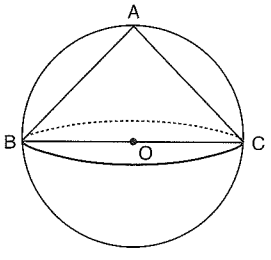
|BC| = $6\sqrt{2}$ br

O merkezli kürenin alanı kaç br^2 dir?

How many unit^2 is the surface area of a sphere with a center O?

A) 36π B) 48π C) 64π D) 72π E) 144π

6.



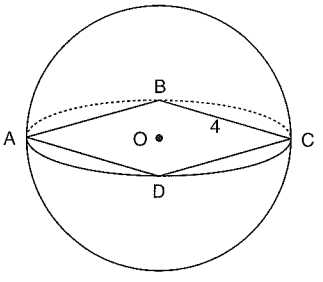
|AC| = |BC|

O merkezli koninin hacmi $3\sqrt{3}$ br^3 olduğuna göre şekildeki kürenin hacmi kaç br^3 tür?

In case the volume of a cone with a bottom center O is $3\sqrt{3}$ unit^3, how many unit^3 is the volume of a sphere indicated as in figure?

A) $4\sqrt{3}$ B) 6 C) $6\sqrt{3}$ D) 12 E) $12\sqrt{3}$

7.



ABCD kare

ABCD square

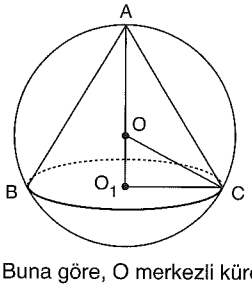
|BC| = 4 br

Şekildeki kürenin yüzey alanı kaç br^2'dir?

How many unit^2 is the surface area of the sphere in figure?

A) 24π B) 26π C) 28π D) 30π E) 32π

8.



O merkezli küre ile O$_1$ merkezli çember şekildeki gibidir.

A sphere with a center O and a circle with a center O$_1$ are as in the figure.

|O$_1$C| = 3 br

|A O$_1$| = 9 br

Buna göre, O merkezli kürenin hacmi kaç br^3 tür?

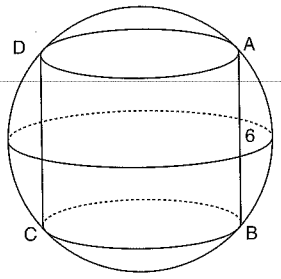
Accordingly how many unit^3 is the volume of the sphere with a center O?

A) $\frac{250\pi}{3}$ B) 150π C) $\frac{500\pi}{3}$ D) 250π E) 1500π

PUZA YAYINLARI

www.ztcprep.com

9.



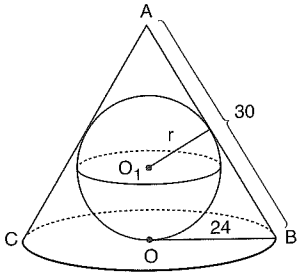
|AB| = 6 br

Alanı 100π olan kürenin içine yerleştirilmiş silindirin alanı kaç br^2'dir?

How many unit ^{2} is the surface area of a cylinder placed in a sphere having a surface area of 100π?

A) 32π B) 48π C) 60π D) 72π E) 80π

10.



O_1 merkezli küre

A sphere with a center of O_1

O merkezli silindir

A cylinder with a center of O

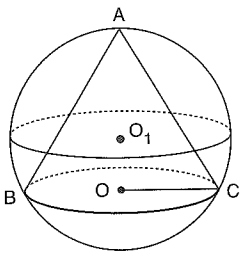
|AB| = 30 br

|OB| = 24 br

$\Rightarrow$ r = ?

A) 14 B) $\frac{72}{7}$ C) 10 D) 8 E) 6

11.



ABC eşkenar üçgen

ABC is an equilateral triangle

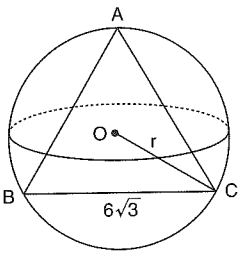
Ç(ABC) = 18 br

$\Rightarrow \frac{\text{Kürenin hacmi}}{\text{Koninin hacmi}} = ?$

$\frac{\textit{Volume of the sphere}}{\textit{Volume of the cone}} = ?$

A) $\frac{24}{9}$ B) $\frac{28}{9}$ C) $\frac{29}{9}$ D) $\frac{10}{3}$ E) $\frac{32}{9}$

12.



O merkezli kürenin içine yerleştirilmiş eşkenar üçgen şekildeki gibidir.

An equilateral triangle placed in a sphere with a center O is as in figure.

$|BC| = 6\sqrt{3}$ br

$\Rightarrow |OC| = r = ?$

A) 3 B) $3\sqrt{3}$ C) 6 D) $6\sqrt{3}$ E) 12

13. Bir ayrıtının uzunluğu 6 br olan düzgün dörtyüzlünün hacmi kaç br^3'tür?

How many unit^3 is the volume of a regular tetrahedron having an edge of 6 units?

A) 18 B) $18\sqrt{2}$ C) 27 D) $18\sqrt{3}$ E) $24\sqrt{2}$

14. Tüm alanı $36\sqrt{3}$ br^2 olan düzgün dörtyüzlünün yüksekliği kaç br'dir?

How many unit is the height of a regular tetrahedron having a total surface area of $36\sqrt{3}$ unit^2?

A) $2\sqrt{6}$ B) 6 C) $3\sqrt{6}$ D) $6\sqrt{2}$ E) 12

15. Bir ayrıtı 3 br olan düzgün sekizyüzlünün hacmi kaç br^3'tür?

How many unit^3 is the volume of a regular tetrahedron having an edge of 3 units?

A) $6\sqrt{2}$ B) $9\sqrt{2}$ C) $9\sqrt{3}$ D) 18 E) $18\sqrt{2}$

16. Tüm alanı $8\sqrt{3}$ br^2 olan düzgün sekizyüzlünün bir ayrıtının uzunluğu kaç br'dir?

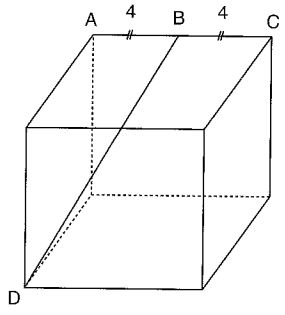
How many unit is the lengtht of the edge regular octahedron having a total surface area of $8\sqrt{3}$ unit^2?

A) 2 B) $2\sqrt{2}$ C) 3 D) $2\sqrt{3}$ E) 4

PUZA YAYINLARI

www.ztcprep.com

1.



Bir ayrıtı 8 br olan küp şekildeki gibi verilmiştir.

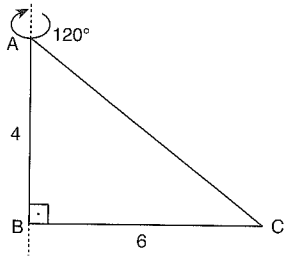
A cube with an edge of 8 units is as in figure

$|AB| = |BC| = 4$ br

$\Rightarrow |DB| = x = ?$

A) 13 B) 12 C) $7\sqrt{2}$ D) 10 E) $2\sqrt{13}$

2.



$[AB] \perp [BC]$

$|AB| = 4$ br

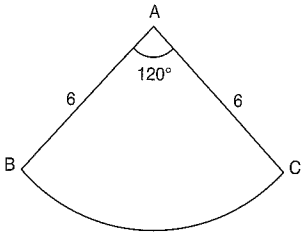
$|BC| = 6$ br

Şekildeki dik üçgenin [AB] doğru parçası etrafında 120° döndürülmesi ile oluşan şeklin hacmi kaç br^3'tür?

As a result of a 120° revolving of the right triangle adjoining around the [AB] line segment, how many unit³ is the volume of the solid formed?

A) 32π B) 16π C) $\frac{32\pi}{3}$ D) 8π E) $\frac{8\pi}{3}$

3.



$|AB| = |BC| = 6$ br

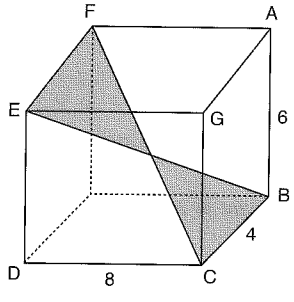
$m(\widehat{BAC}) = 120°$

Şekildeki daire dilimi kıvrılarak bir dik koni oluşturuluyor. Oluşturulan bu koninin hacmi kaç br^3'tür? ($\pi = 3$)

A slice of circle in figure is curled and formed a right cone. How many unit³ is the volume of this cone formed? ($\pi = 3$)

A) $16\sqrt{3}$ B) $16\sqrt{2}$ C) 16 D) $8\sqrt{3}$ E) $8\sqrt{2}$

4.



Dikdörtgen prizma

Rectangular prism

$|AB| = 6$ br

$|BC| = 4$ br

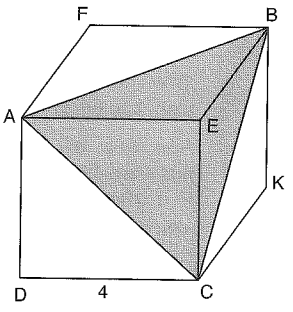
$|DC| = 8$ br

Şekildeki taralı bölgenin alanı kaç br^2'dir?

How many unit² is the surface area of the shaded sector in figure?

A) 40 B) 32 C) 30 D) 20 E) 15

5.



Bir ayrıtı 4 br olan küp

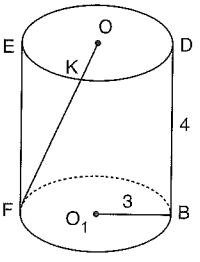
A cube with an edge of 4 unit

$|DC| = 4$ br

$\Rightarrow V(E, ABC) = ?$

A) 64 B) 32 C) 16 D) 12 E) 8

6.



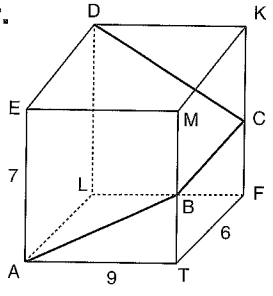
$|O_1B| = 3$ br

$|DB| = 4$ br

$\Rightarrow \min\{|FK| + |KO|\} = ?$

A) 7 B) 9 C) $4 + 6\pi$ D) $4 + 12\pi$ E) 16π

7.



$|EA| = 7$ br

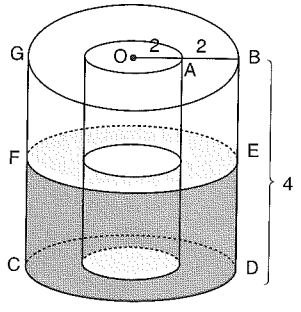
$|AT| = 9$ br

$|TF| = 6$ br

$\Rightarrow \min(|AB| + |BC| + |CD|) = ?$

A) 25 B) 23 C) 22 D) 18 E) 17

8.



$|OA| = |AB| = 2$ br

$|BD| = 4$ br

İki silindirin arasındaki yüksekliği 4 br olan suyun hacmi kaç br^3'tür?

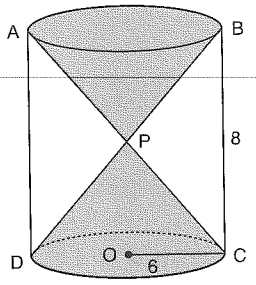
How many unit³ is the volume of the water having a height of 4 units between two cylinders?

A) 48π B) 32π C) 30π D) 16π E) 8π

PUZA YAYINLARI

www.ztcprep.com

9.



$|BC| = 8$ br

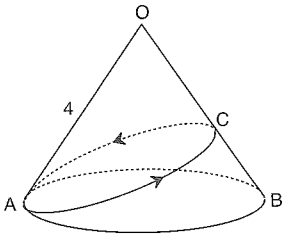
$|OC| = 6$ br

Silindirin içinde P noktasını tepe noktası kabul eden konilerin hacimleri toplamı kaç br^3'tür?

How many $unit^3$ is the total of the volumes of cones that assume P point as their peak/top points in cylinder?

A) 108π B) 96π C) 72π D) 64π E) 50π

10.



$|OA| = |OB| = 4$ br

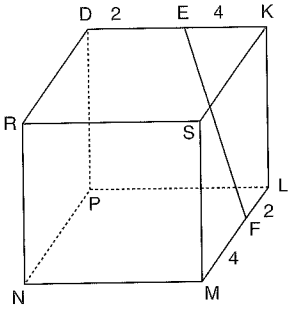
Dik koninin taban çevresi 2π,

A'dan başlayıp koninin etrafını dolaşarak A'da biten en kısa ipin uzunluğu kaç br'dir?

The bottom perimeter of a right cone is 2π units, how many unit is the length of the shortest thread starts from A, and then goes around the cone and finishes at A?

A) 2 B) $2\sqrt{2}$ C) 4 D) $4\sqrt{2}$ E) 8

11.



Bir ayrıtının uzunluğu 6 br olan küp

A cube with an edge of 6 units is given

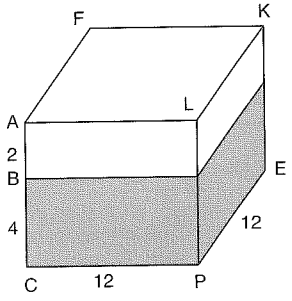
$|DE| = |FL| = 2$ br

$|EK| = |FM| = 4$ br

$\Rightarrow |EF| = ?$

A) $2\sqrt{13}$ B) $2\sqrt{14}$ C) $2\sqrt{15}$ D) $2\sqrt{17}$ E) $2\sqrt{19}$

12.



$2|AB| = |BC| = 4$ br

$|CP| = |PE| = 12$ br

Şekildeki kare prizma EKLP yüzeyi üzerine oturtulduğunda suyun yüksekliği kaç br olur?

When a square prism as in figure is situated at an EKLP surface plane, how many unit will be the height of water?

A) 4 B) 6 C) 8 D) 9 E) 10

13. Bir kürenin yarıçapı % 20 artırılırsa hacmi yüzde kaç artar?

In case the radius of a sphere is increased 20%, how many per cent of its volume will increase?

A) 20 B) 40 C) 44 D) 56,2 E) 72,8

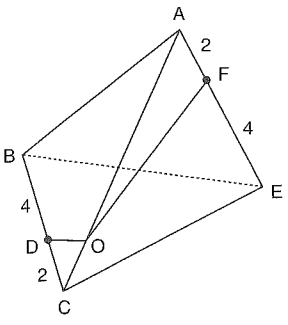
14. Ayrıtları a, b, c olan dikdörtgenler prizmasının hacmi 48 br^3, alanı 88 br^2

The volume of a rectangular prism with the dimensions/edges a, b, c is 48 $unit^3$ and its surface is 88 $unit^2$

$\Rightarrow \frac{1}{a}+\frac{1}{b}+\frac{1}{c} = ?$

A) $\frac{11}{12}$ B) $\frac{3}{4}$ C) $\frac{7}{12}$ D) $\frac{4}{7}$ E) $\frac{1}{2}$

15.



Düzgün dörtyüzlü

Regular tetrahedron

$|AF| = |DC| = 2$ br

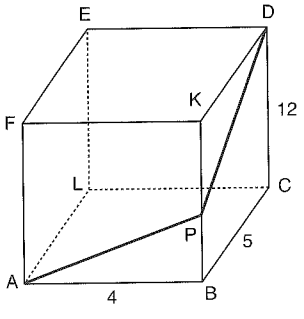
$|FE| = |BD| = 4$ br

$O \in |AC|$

$\Rightarrow \min(|DO|+|OF|) = ?$

A) 12 B) 6 C) $2\sqrt{7}$ D) 5 E) 4

16.



Dikdörtgen prizma

Rectangle prism

$|AB| = 4$ br

$|BC| = 5$ br

$|DC| = 12$ br

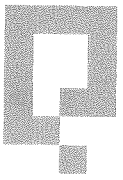
$\Rightarrow \min\{|AP|+|PD|\} = ?$

A) 15 B) 13 C) 12 D) 10 E) 8

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

www.ztcprep.com

ZTC زنگنه مجموعه موسسات



KATI CİSİM SOLID OBJECT
Yanıt Anahtarı Answer Key

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	E	E	E	A	B	E	D	C	B	A	A	A	C	B	C

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	E	D	A	C	A	B	C	A	D	D	C	B	E	E	A

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	E	A	B	D	C	D	E	E	A	D	D	D	A	E	C

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
B	A	D	C	C	D	B	E	E	B	B	B	C	D	E

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	B	E	E	E	C	D	C	E	C	E	D	A	D	C	D

TEST 6

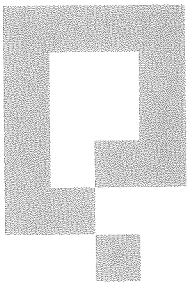
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
C	D	E	A	E	E	E	A	E	D	E	C	B	A	B	A

TEST 7

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	B	B	D	B	A	A	A	B	D	B	C	E	A	C	B

www.ztcprep.com

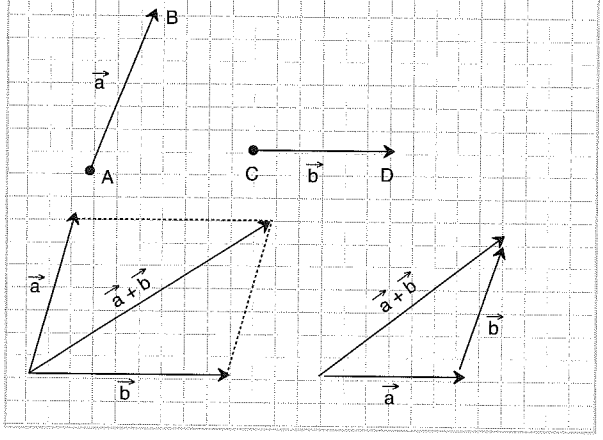
ZTC زنگنه
مجموعه موسسات



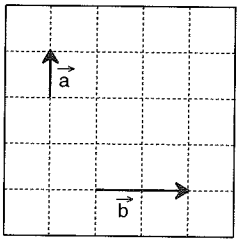
VEKTÖRLER
VECTORS

www.ztcprep.com

ÖZELLİK | Property 1

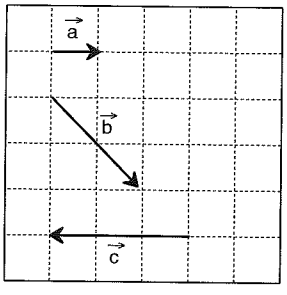


1.



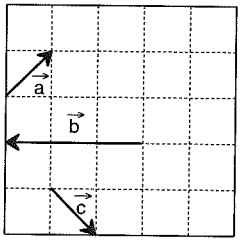
$\Rightarrow \vec{a}+\vec{b}=?$

2.



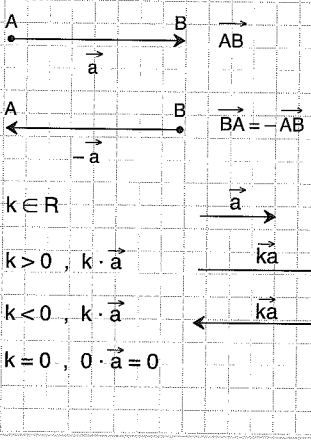
$\Rightarrow \vec{a}+\vec{b}+\vec{c}=?$

3.

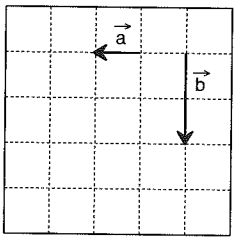


$\Rightarrow \vec{a}+\vec{b}+\vec{c}=?$

ÖZELLİK | Property 2

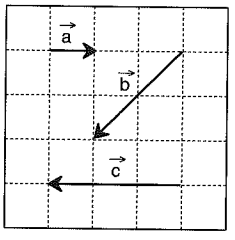


1.



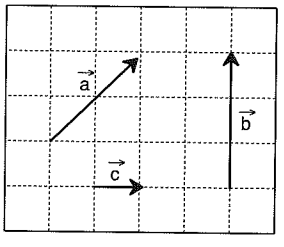
$2\vec{a}-\vec{b}=?$

2.



$\Rightarrow 3\vec{a}+\frac{\vec{b}}{2}-\frac{\vec{c}}{3}=?$

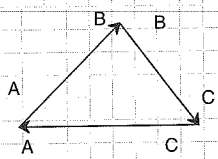
3.



$\Rightarrow \frac{\vec{a}}{2}-\frac{\vec{b}}{3}+\vec{c}=?$

PUZA YAYINLARI

ÖZELLİK | Property 3



$\overrightarrow{AB} + \overrightarrow{BC} + \overrightarrow{CA} = \overrightarrow{AA} = 0$

$\overrightarrow{AB} + \overrightarrow{BC} + \overrightarrow{CD} = \overrightarrow{AC} + \overrightarrow{CD} = \overrightarrow{AD}$

$\overrightarrow{AB} + \overrightarrow{BA} = \overrightarrow{AA} = 0$

1. $\overrightarrow{GA} + \overrightarrow{AD} + \overrightarrow{DC} = ?$

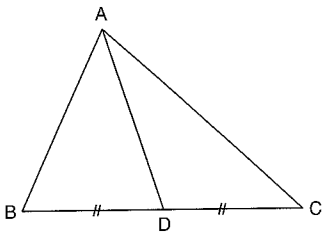
$\overrightarrow{AB} - \overrightarrow{CB} = ?$

$\overrightarrow{AB} - \overrightarrow{AD} = ?$

$\overrightarrow{BE} + \overrightarrow{EB} = ?$

$\overrightarrow{AB} + \overrightarrow{BC} - \overrightarrow{DC} = ?$

2.

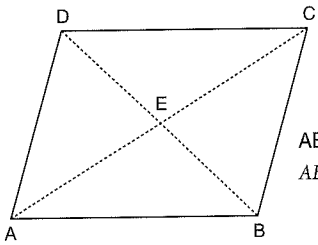


$\overrightarrow{AB} + \overrightarrow{BD} = ?$ $\quad\quad$ $\overrightarrow{AB} - \overrightarrow{AC} = ?$

$\overrightarrow{BA} + \overrightarrow{AC} = ?$ $\quad\quad$ $\overrightarrow{AB} + \overrightarrow{AC} = ?$

$\overrightarrow{DC} + \overrightarrow{DA} = ?$ $\quad\quad$ $\overrightarrow{BC} + \overrightarrow{AB} = ?$

3.



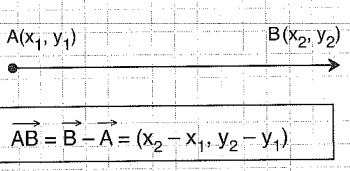
ABCD paralelkenar

ABCD parallelogram

$\overrightarrow{AB} - \overrightarrow{AD} = ?$ $\quad\quad$ $\overrightarrow{AE} + \overrightarrow{DE} = ?$

$\overrightarrow{BA} - \overrightarrow{BC} = ?$ $\quad\quad$ $\overrightarrow{BD} + \overrightarrow{AC} = ?$

ÖZELLİK | Property 4



$\overrightarrow{AB} = \overrightarrow{B} - \overrightarrow{A} = (x_2 - x_1, y_2 - y_1)$

1. A(4, 2) $\quad$ B(3, –1) $\quad\Rightarrow \overrightarrow{AB} = ?$

A(3, – 2) $\quad$ B(4, 1) $\quad\Rightarrow \overrightarrow{AB} = ?$

(–1, – 3), (1, 3)

2. $\overrightarrow{AB}$ (4, – 2) $\quad$ A(3, –1) $\quad\Rightarrow$ B(x, y) = ?

$\overrightarrow{AB}$ (– 4, – 6) $\quad$ A(2, – 2) $\quad\Rightarrow$ B(x, y) = ?

(7, – 3), (– 2, – 8)

3. $\overrightarrow{AB}$ (– 6, 3) $\quad$ B(2, – 3) $\quad\Rightarrow$ A(x, y) = ?

$\overrightarrow{AB}$ (– 4, 3) $\quad$ B(1, 4) $\quad\Rightarrow$ A(x, y) = ?

(8, – 6), (5, 1)

PUZA YAYINLARI

ÖZELLİK | Property 5

$\vec{A}(x_1, y_1)$
$\vec{B}(x_2, y_2)$

$\vec{A} = \vec{B} \Leftrightarrow x_1 = x_2$ ve $y_1 = y_2$

1. $\vec{A}(3, x)$ $\vec{B}(2x, -5y)$ $\vec{A} = \vec{B}$ $\Rightarrow y = ?$

$-\frac{3}{10}$

2. A(1, – 2) B(– 2, 3) C(4, 1) D(x, y)

$\overrightarrow{AB} = \overrightarrow{CD}$ $\Rightarrow x + y = ?$

7

3. A(– 5, 1) B(3, 4) $\vec{C}(x, y)$ $\overrightarrow{AB} = \vec{C}$

$\Rightarrow (x, y) = ?$

(8, 3)

ÖZELLİK | Property 6

$\vec{A}(x_1, y_1)$
$\vec{B}(x_2, y_2)$

$\vec{A} + \vec{B} = (x_1 + x_2, y_1 + y_2)$
$\vec{A} - \vec{B} = (x_1 - x_2, y_1 - y_2)$

1. $\vec{A}(8, 4)$ $\vec{B}(2, -7)$ $\Rightarrow \vec{A} + \vec{B} = ?$

$\Rightarrow \vec{A} - \vec{B} = ?$

(10, –3), (6, 11)

2. A(1, 2) B(3, – 2) C(4, 1) D(– 2, 1)

$\Rightarrow \overrightarrow{AC} + \overrightarrow{BD} = ?$

$\Rightarrow \overrightarrow{AC} - \overrightarrow{BD} = ?$

(–2, 2), (8, –4)

3. $\overrightarrow{AB}(3, -1)$ B(3, – 2) C(5, 1)

$\Rightarrow \overrightarrow{AC} + \overrightarrow{BC} = ?$

$\Rightarrow \overrightarrow{AC} - \overrightarrow{BC} = ?$

(7, 5), (3, –1)

ÖZELLİK | Property 7

$\vec{A}(x, y)$

* $k(x, y) = (kx, ky)$
* $-k(x, y) = (-kx, -ky)$
* $k = 0$ $\quad k \cdot (x, y) = 0(x, y) = (0, 0)$

1. $\vec{A}(-1, 2)$ $\vec{B}(-3, -2)$ $\Rightarrow 2\vec{A} + 3\vec{B} = ?$

(–11, –2)

2. A(3, 2) B(–1, 5) $\vec{C}(-2, 1)$

$\Rightarrow 2\overrightarrow{AB} + \vec{C} = ?$

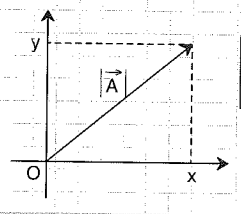
(–10, 7)

3. A(–1, 3) B(– 3, 4) C(x, y) $2(\overrightarrow{AC}) = 3(\overrightarrow{AB})$

$\Rightarrow C(x, y) = ?$

(– 4, 9/2)

ÖZELLİK | Property 8



$\vec{A}(x, y) \Rightarrow |\vec{A}| = ||\vec{A}|| = \sqrt{x^2 + y^2}$

1. $\vec{A}(3, -4)$ $\Rightarrow ||\vec{A}|| = ?$

5

2. $||\vec{A}|| = 10$ $\vec{A}(x, -6)$

$\Rightarrow \sum x = ?$

0

3. A(– 4, – 5) B(– 9, –10)

$\Rightarrow ||\overrightarrow{AB}|| = ?$

$5\sqrt{2}$

PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK|Property 9

$\overrightarrow{A(x,y)} \Rightarrow \left|\left|\vec{A}\right|\right| = \sqrt{x^2+y^2}$

$\vec{A}$ Vektörünün aynı yönlü birim vektörü
unit vector with the same direction of $\vec{A}$

$$I_A = \frac{\vec{A}}{\left|\left|\vec{A}\right|\right|}$$

$\vec{A}$ vektörünün zıt yönlü birim vektörü
unit vector with the opposite direction of $\vec{A}$

$$-I_A = \frac{-\vec{A}}{\left|\left|\vec{A}\right|\right|}$$

1. $\vec{A}$ (–2, 4) vektörüyle aynı yönlü birim vektörü nedir?
What is unit vector with the same direction to vector $\vec{A}$ *(–2, 4)?*

$\left(\frac{-1}{\sqrt{5}}, \frac{2}{\sqrt{5}}\right)$

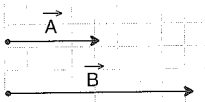
2. $\vec{A}$ (–3, 4) vektörüyle zıt yönlü birim vektörü nedir?
What is unit vector with the opposite direction to vector $\vec{A}$ *(–3, 4)?*

$\left(\frac{3}{5}, -\frac{4}{5}\right)$

3. A(3, –2), B(3, 1) $\overrightarrow{AB}$ vektörüyle aynı yönlü birim vektörü nedir?
What is unit vector with the same direction to vector $\overrightarrow{AB}$ *?*

(0, 1)

ÖZELLİK|Property 10



$\left.\begin{matrix}\vec{A}(x_1,y_1)\\ \vec{B}(x_2,y_2)\end{matrix}\right\} \vec{A} \,//\, \vec{B} \Rightarrow \frac{y_1}{x_1} = \frac{y_2}{x_2}$

1. $\vec{A}(3,4)$ $\vec{B}(-6,x)$ $\vec{A} \,//\, \vec{B}$ $\Rightarrow x = ?$

-8

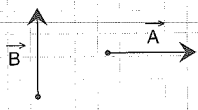
2. A(1, – 3) B(2, 6) C(3, – x) $\overrightarrow{AB} \,//\, \overrightarrow{AC}$
$\Rightarrow x = ?$

-15

3. $\vec{A}$ (x – 1, 3) $\vec{B}$ (5, x + 1) $\vec{A} \,//\, \vec{B}$
$\Rightarrow \sum x = ?$

0

ÖZELLİK|Property 11



$\left.\begin{matrix}\vec{A}(x_1,y_1)\\ \vec{B}(x_2,y_2)\end{matrix}\right\} A \perp B \Rightarrow \frac{y_1}{x_1}\cdot\frac{y_2}{x_2} = -1$

1. $\vec{A}$ (3, –2) $\vec{B}$ (2, x) $\vec{A} \perp \vec{B}$ $\Rightarrow x = ?$

3

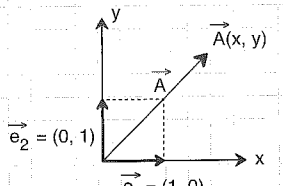
2. A(3, 1) B(2, x) $\vec{C}$ (– 5, 7) $\overrightarrow{AB} \perp \vec{C}$
$\Rightarrow x = ?$

$\frac{2}{7}$

3. $\overrightarrow{AB}$(–1, 3) A(3, 1) C(x, 2) $\overrightarrow{BC} \perp \overrightarrow{AC}$
$\Rightarrow \sum x = ?$

5

ÖZELLİK|Property 12



$\vec{A} = x\vec{e_1} + y\vec{e_2}$
$\vec{A} = x(1,0) + y(0,1)$
$\vec{A} = (x,0) + (0,y)$
$\vec{A} = (x,y)$

1. $\vec{A}$ (1, – 2) $\Rightarrow \vec{A} = x\vec{e_1} + y\vec{e_2} = ?$

$\vec{e_1} - 2\vec{e_2}$

2. $\vec{A} = 2\vec{e_1} - 4\vec{e_2}$ $\Rightarrow \vec{A} = ?$

(2, – 4)

3. $\vec{A}$(4, – 2) $\vec{B}$(– 5, 3)
$\vec{C}$(8, 1) $k\vec{A} + m\vec{B} = \vec{C}$ $\Rightarrow k + m = ?$

$\frac{49}{2}$

PUZA YAYINLARI

www.ztcprep.com

ZTC زنگنه مجموعه موسسات Özellikler

ÖZELLİK | Property 13

$\vec{A}(x_1, y_1)$ $\vec{B}(x_2, y_2)$

$$\vec{A} \cdot \vec{B} = <\vec{A}, \vec{B}> = x_1 \cdot x_2 + y_1 \cdot y_2$$

1. $\vec{A}(3,1)$ $\vec{B}(-2,4)$ $\Rightarrow \vec{A} \cdot \vec{B} = ?$

-2

2. $\vec{A}(4,5)$ $\vec{B}(x,-4)$ $<\vec{A}, \vec{B}> = 4$ $\Rightarrow x = ?$

6

3. A(x, 2) B(4, 2) $\vec{C}(-1,1)$ $<\overrightarrow{AB}, \vec{C}> = 4$

$\Rightarrow x = ?$

8

ÖZELLİK | Property 14

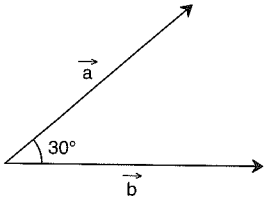
$$\vec{A} \cdot \vec{B} = <\vec{A}, \vec{B}> = |\vec{A}| \cdot |\vec{B}| \cdot \cos\alpha$$

* $\vec{A} \perp \vec{B}$ $\cos 90° = 0$ $\Rightarrow <\vec{A}, \vec{B}> = 0$

* $\cos 180° = -1$ $\Rightarrow <\vec{A}, \vec{B}> = -|\vec{A}| \cdot |\vec{B}|$

* $\cos 0° = 1$ $\Rightarrow <\vec{A}, \vec{B}> = |\vec{A}| \cdot |\vec{B}|$

1.



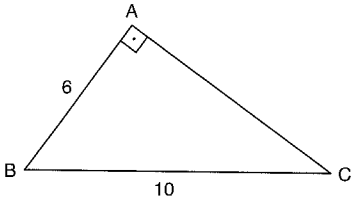
$||\vec{a}|| = 4$ br

$||\vec{b}|| = 6$ br

$\Rightarrow \vec{a} \cdot \vec{b} = ?$

$12\sqrt{3}$

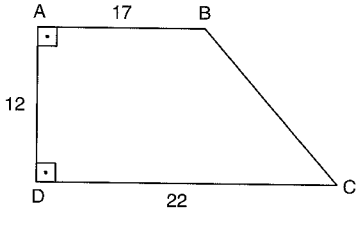
2.



$\Rightarrow <\overrightarrow{AB}, \overrightarrow{AC}> = ?$

0

3.



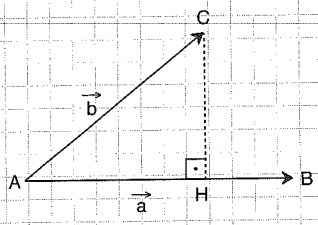
$\Rightarrow <\overrightarrow{DC}, \overrightarrow{CB}> = ?$

-110

PUZA YAYINLARI

www.ztcprep.com

ÖZELLİK|Property 15



$$\overrightarrow{AH} = \frac{\langle \vec{a}, \vec{b} \rangle}{|\vec{a}|^2} \cdot \vec{a} \qquad |\overrightarrow{AH}| = \frac{\langle \vec{a}, \vec{b} \rangle}{|\vec{a}|}$$

1. $\vec{A}(-8, 6)$ vektörünün $\vec{B}(-7, 24)$ vektörü üzerindeki dik izdüşüm vektörü nedir?

What is the orthogonal projection vector over the $\vec{B}(-7, 24)$ vector of $\vec{A}(-8, 6)$ vector?

$$\left(-\frac{56}{25}, \frac{192}{25}\right)$$

2. $\vec{A}(4, -1)$ vektörünün $\vec{B}(3, 4)$ vektörü üzerindeki dik izdüşüm vektörünün uzunluğu nedir?

What is the orthogonal projection length over the $\vec{B}(3, 4)$ vector of $\vec{A}(4,-1)$ vector?

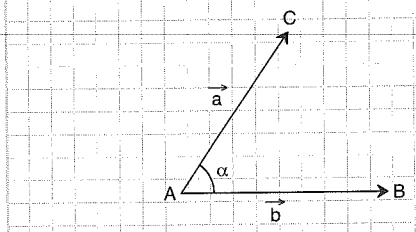
$$\frac{8}{5}$$

3. $\vec{A}(6, 1)$ vektörünün $y = 2x$ doğrusu üzerine dik izdüşüm vektörünün uzunluğu nedir?

What is the orthogonal projection length over the $y=2x$ line of $\vec{A}(6,1)$ vector?

$$\frac{8\sqrt{5}}{5}$$

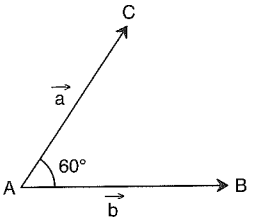
ÖZELLİK|Property 16



$$|\vec{a}+\vec{b}|^2 = |\vec{a}|^2 + |\vec{b}|^2 + 2|\vec{a}||\vec{b}|\cdot\cos\alpha$$

$$|\vec{a}-\vec{b}|^2 = |\vec{a}|^2 + |\vec{b}|^2 - 2|\vec{a}||\vec{b}|\cdot\cos\alpha$$

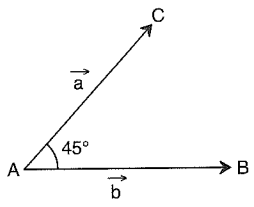
1.



$|\vec{a}| = 5$ br
$|\vec{b}| = 3$ br
$\Rightarrow |\vec{a}+\vec{b}| = ?$

$$7$$

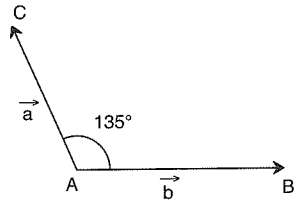
2.



$|\vec{a}| = 4\sqrt{2}$ br
$|\vec{b}| = 6$ br
$\Rightarrow |\vec{a}-\vec{b}| = ?$

$$2\sqrt{5}$$

3.



$|\vec{a}| = 4$ br
$|\vec{b}| = 6\sqrt{2}$ br
$\Rightarrow |\vec{a}-\vec{b}| = ?$

$$2\sqrt{34}$$

PUZA YAYINLARI

www.ztcprep.com

1. A(2, –1) B(4, – 3) $\Rightarrow \overrightarrow{AB} = ?$

A) (2, – 4) B) (2, – 2) C) (6, – 2)
D) (2, 2) E) (– 6, 2)

2. A(4, –5) B(– 2, – 4) $\Rightarrow \overrightarrow{BA} = ?$

A) (6, –1) B) (6, 1) C) (2, 9)
D) (– 6, 1) E) (2, 1)

3. $\overrightarrow{AB}$ (– 7, 5) A(3, 2) B(x, y) $\Rightarrow$ B(x, y) = ?

A) (–10, 3) B) (4, 3) C) (10, – 3)
D) (– 4, 7) E) (4, –7)

4. $\overrightarrow{BA}$ (– 4, 6) A(– 2, 3) B(x, y) $\Rightarrow$ B(x, y) = ?

A) (– 2, – 9) B) (3, – 2) C) (2, – 3)
D) (– 2, 9) E) (– 2, – 3)

5. $\vec{A}$ (4, – 3) $\vec{B}$ (– 6, 7) $\Rightarrow \vec{A} + \vec{B} = ?$

A) (– 2, 5) B) (2, 4) C) (10, 10)
D) (–10, –10) E) (– 2, 4)

6. $\vec{A}$ (–11, 5) $\vec{B}$ (x, 2y – 1) $\vec{A} - \vec{B} = (-8, 2)$
$\Rightarrow x + y = ?$

A) – 2 B) –1 C) 2 D) 3 E) 5

7. A(5, – 2) B(3, – 7) C(– 2, 3) $\Rightarrow \overrightarrow{AB} + \overrightarrow{AC} = ?$

A) (5, 10) B) (– 7, 5) C) (5, 6)
D) (0, – 9) E) (– 9, 0)

8. $\overrightarrow{AB}$ (3, – 2) A(–1, 3) C(1, – 2) $\Rightarrow \overrightarrow{AC} - \overrightarrow{BC} = ?$

A) (3, –1) B) (3, – 2) C) (1, – 2)
D) (1, – 8) E) (3, – 8)

PUZA YAYINLARI

www.ztcprep.com

9. $\vec{A}(2,-1)$ $\vec{B}(7,-2)$ $\Rightarrow 2\vec{A}+3\vec{B}=?$

A) (13, – 2) B) (5, – 3) C) (– 6, 8)
D) (25, – 4) E) (25, – 8)

10. A(– 3, 7) B(2, 4) C(–1, 5) $\Rightarrow 3\overrightarrow{AB}-5\overrightarrow{BC}=?$

A) (0, –14) B) (– 30, 4) C) (30, – 4)
D) (30, –14) E) (0, – 4)

11. $\vec{A}(-2,1)$ $\Rightarrow |\vec{A}|=?$

A) $\sqrt{2}$ B) $\sqrt{5}$ C) 3 D) $2\sqrt{3}$ E) $2\sqrt{5}$

12. A(4, 1) B(1, – 3) $\Rightarrow |\overrightarrow{AB}|=?$

A) 3 B) 4 C) 5 D) $4\sqrt{2}$ E) $4\sqrt{3}$

13. A(–1, 3) B(5, –5) $\Rightarrow |\overrightarrow{AB}|=?$

A) $5\sqrt{2}$ B) 10 C) $10\sqrt{2}$ D) $10\sqrt{3}$ E) 15

14. $\vec{A}(x,y)$ $|\vec{A}|=1$

$\vec{A}$ vektörü aşağıdakilerden hangisi olabilir?

Which of the following can be vector of $\vec{A}$*?*

A) (2, 4) B) (–1, 1) C) (1, 1)
D) (0, –1) E) (3, 4)

15. $\vec{A}(4,-5)$ $\vec{B}(3,-3)$ $\Rightarrow |\vec{A}-\vec{B}|=?$

A) $\sqrt{3}$ B) $\sqrt{5}$ C) 3 D) 5 E) 12

16. $\vec{A}\left(x,\frac{4}{5}\right)$ $|\vec{A}|=1$ $\Rightarrow \sum x=?$

A) $-\frac{3}{5}$ B) 0 C) $\frac{3}{5}$ D) 1 E) $\frac{4}{5}$

PUZA YAYINLARI
PUZA YAYINLARI
PUZA YAYINLARI

www.ztcprep.com

1. $\vec{A}(2x-1, 2y-6)$ $\vec{B}(7, 2x)$ $\vec{A} = \vec{B}$ $\Rightarrow x+y=?$

A) 3 B) 7 C) 9 D) 11 E) 13

2. A(7, 6) B(12, 1) $\vec{C}(x, y)$ $\overrightarrow{AB} = \vec{C}$ $\Rightarrow x+y=?$

A) –10 B) – 5 C) 0 D) 5 E) 10

3. A(0, 4) B(1, 2) C(4, x) D(y, 4) $\overrightarrow{AC} = \overrightarrow{DB}$ $\Rightarrow x \cdot y = ?$

A) –1 B) –2 C) – 3 D) – 4 E) – 6

4. A(2, 3) B(0, 4) C(x, y) $\overrightarrow{AB} = 3(\overrightarrow{BC})$ $\Rightarrow \frac{x}{y} = ?$

A) –1 B) $-\frac{2}{13}$ C) $\frac{1}{3}$ D) $\frac{3}{7}$ E) 1

5. $\vec{A}(-2, -6)$ $\vec{B}(3, x-1)$ $\vec{A} \,//\, \vec{B}$ $\Rightarrow x=?$

A) –10 B) – 8 C) 8 D) 10 E) 12

6. A(– 2, 1) B(– 6, 3) C(4, 1) D(8, y) $\overrightarrow{AB} \,//\, \overrightarrow{CD}$ $\Rightarrow y = ?$

A) – 2 B) –1 C) 0 D) 1 E) 2

7. $\vec{A}(-2, 4)$ $\vec{B}(x, -8)$ $\vec{A} \perp \vec{B}$ $\Rightarrow x=?$

A) –16 B) – 4 C) 1 D) 4 E) 16

8. A(3, –1) B(x, 3) C(7, 1) D(3, y) $\overrightarrow{AB} \perp \overrightarrow{CD}$ x = ay + b $\Rightarrow a+b=?$

A) – 2 B) 1 C) 2 D) 3 E) 5

PUZA YAYINLARI

www.ztcprep.com

9. $\vec{A}=3\vec{e_1}-2\vec{e_2}$ $\Rightarrow A=?$

A) (3, 2) B) (– 3, 2) C) (0, 5)
D) (1, 0) E) (3, – 2)

10. $\vec{A}=(-2,5)$ $\vec{B}=4\vec{e_1}+2\vec{e_2}$ $\vec{C}=2\vec{A}+\vec{B}$

$\Rightarrow \vec{C}=?$

A) (2, 3) B) (2, 7) C) (0, 7)
D) (0, 8) E) (0, 12)

11. $2\vec{A}+3\vec{B}+\vec{C}=7\vec{e_1}-5\vec{e_2}$
$2\vec{A}+\vec{B}+3\vec{C}=5\vec{e_1}-3\vec{e_2}$ $\Rightarrow \vec{A}+\vec{B}+\vec{C}=?$

A) (3, – 2) B) (5, 2) C) (4, – 2)
D) (3, –1) E) (2, –1)

12. $\vec{K}(2,4)$ $\vec{U}(1,2)$ $\vec{V}(0,1)$ $\vec{K}=a\vec{U}+b\vec{V}$ $\Rightarrow a+b=?$

A) – 2 B) –1 C) 0 D) 1 E) 2

13. $\vec{A}(-1,3)$ $\vec{B}(1,2)$ $\vec{C}(-2,1)$ $\vec{C}=x\vec{A}+y\vec{B}$ $\Rightarrow x+y=?$

A) – 3 B) – 2 C) –1 D) 0 E) 1

14. $k>0$

$\vec{A}=\frac{3}{5}\vec{e_1}-k\vec{e_2}$ $|\vec{A}|=1$

$\vec{B}=5\vec{A}$ $\Rightarrow \vec{B}=?$

A) (– 3, – 2) B) (– 3, 4) C) (3, – 5)
D) (3, 4) E) (3, – 4)

15. $\overrightarrow{AB}(2,3)$ $\overrightarrow{BC}(4,-3)$ $\overrightarrow{DE}(6,-1)$ $\overrightarrow{EA}(0,4)$ $\Rightarrow \overrightarrow{DC}=?$

A) (7, –1) B) (12, 3) C) (6, 4)
D) (5, – 3) E) (8, – 3)

16. $\overrightarrow{AB}=-3\vec{e_1}+5\vec{e_2}$
$\overrightarrow{AC}=\vec{e_1}+2\vec{e_2}$ $\Rightarrow |\overrightarrow{BC}|=?$

A) 5 B) $5\sqrt{2}$ C) $5\sqrt{3}$ D) 10 E) 12

PUZA YAYINLARI

www.ztcprep.com

1. $\vec{A}(-1,2)$ $\vec{B}(3,7)$ $\Rightarrow \vec{A}\cdot\vec{B}=?$

A) 11 B) 9 C) 7 D) 6 E) 4

2. $\vec{A}(x,-5)$ $\vec{B}(-2,3)$ $\vec{A}\cdot\vec{B}=-9$ $\Rightarrow x=?$

A) -3 B) -2 C) 1 D) 2 E) 3

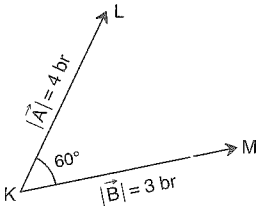
3. $\vec{A}=(x-2)\vec{e_1}+(x+3)\vec{e_2}$
$\vec{B}=(x+2)\vec{e_1}+(3-x)\vec{e_2}$
$\Rightarrow \vec{A}\cdot\vec{B}=?$

A) $2x^2$ B) $2x^2+5$ C) 5
D) 9 E) $2x+3$

4. $\overrightarrow{AB}(1,2)$ $\overrightarrow{BC}(-2,3)$ $\overrightarrow{DE}(-2,3)$ $\overrightarrow{EA}(3,1)$
$\Rightarrow \overrightarrow{AC}\cdot\overrightarrow{DA}=?$

A) 19 B) 15 C) 11 D) 8 E) 7

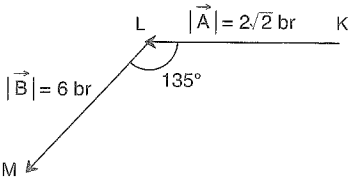
5.



$\Rightarrow \vec{A}\cdot\vec{B}=?$

A) 3 B) 6 C) $3\sqrt{3}$ D) $6\sqrt{3}$ E) 12

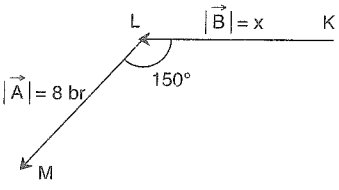
6.



$\Rightarrow \vec{A}\cdot\vec{B}=?$

A) 12 B) $6\sqrt{2}$ C) 6 D) $-6\sqrt{2}$ E) -12

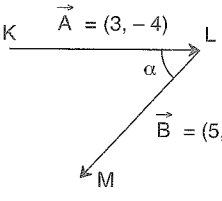
7.



$\vec{A}\cdot\vec{B}=-20\sqrt{3}$ br
$\Rightarrow x=?$

A) -3 B) -4 C) -5 D) -6 E) -8

8.



$\Rightarrow \cos\alpha=?$

A) $\frac{-63}{65}$ B) $\frac{-5}{12}$ C) $\frac{33}{65}$ D) $\frac{63}{65}$ E) 1

PUZA YAYINLARI

www.ztcprep.com

9. $|\vec{U}| = 4$ br $\quad |\vec{V}| = 6$ br $\quad \vec{U} \perp \vec{V}$

$\Rightarrow (\vec{U} + \vec{V}) \cdot (\vec{U} + 2\vec{V}) = ?$

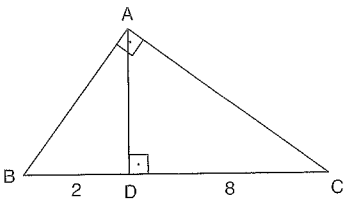
A) 160 B) 112 C) 88 D) 78 E) 56

10. $|\vec{A}| = 2$ br $\quad |\vec{B}| = 4$ br $\quad \vec{A} \perp \vec{B}$

$\Rightarrow (2\vec{A} - \vec{B}) \cdot (\vec{A} + \vec{B}) = ?$

A) –16 B) – 8 C) 0 D) 4 E) 16

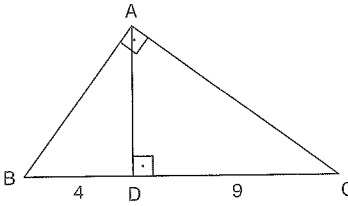
11.



[AB] ⊥ [AC]
[AD] ⊥ [BC]
$|BD| = 2$ br
$|DC| = 8$ br
$\Rightarrow \overrightarrow{BA} \cdot (\overrightarrow{BD} + \overrightarrow{AC}) = ?$

A) 2 B) 4 C) $2\sqrt{5}$ D) – 4 E) – 2

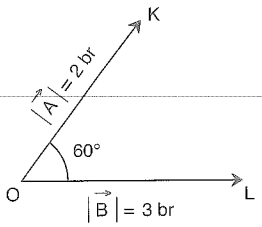
12.



[AB] ⊥ [AC]
[AD] ⊥ [BC]
$|BD| = 4$ br
$|DC| = 9$ br
$\Rightarrow \overrightarrow{BA} \cdot (\overrightarrow{AD} + \overrightarrow{DC}) = ?$

A) – 36 B) – 2 C) 0 D) 13 E) 36

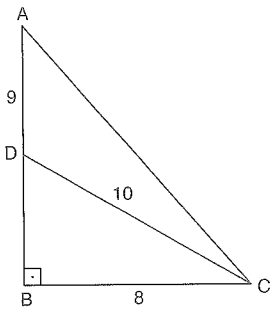
13.



$\Rightarrow 2\vec{A} \cdot 3\vec{B} = ?$

A) 18 B) 15 C) 12 D) 10 E) 8

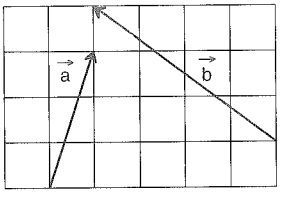
14.



[AB] ⊥ [BC]
$|AD| = 9$ br
$|DC| = 10$ br
$|BC| = 8$ br
$\Rightarrow \overrightarrow{CA} \cdot \overrightarrow{BD} = ?$

A) – 255 B) – 90 C) 55 D) 90 E) 255

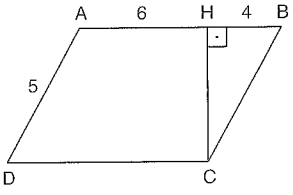
15.



$\Rightarrow \vec{a} \cdot \vec{b} = ?$

A) 5 B) 6 C) 7 D) 8 E) 9

16.

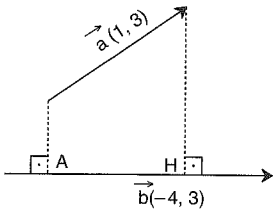


ABCD paralelkenar
ABCD parallelogram
[AB] ⊥ [HC]
$\Rightarrow \overrightarrow{BA} \cdot (\overrightarrow{DA} + \overrightarrow{HC}) = ?$

A) – 60 B) – 40 C) – 24 D) –12 E) –10

www.ztcprep.com

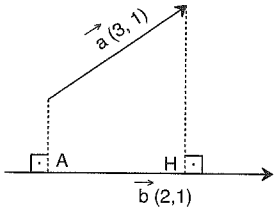
1.



$\Rightarrow |\overrightarrow{AH}| = ?$

A) 1 B) 2 C) 3 D) 4 E) 5

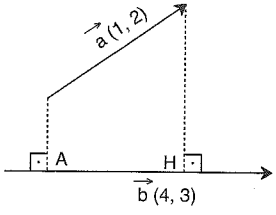
2.



$\Rightarrow |\overrightarrow{AH}| = ?$

A) 2 B) $\sqrt{5}$ C) $\sqrt{6}$ D) $\sqrt{7}$ E) $2\sqrt{2}$

3.

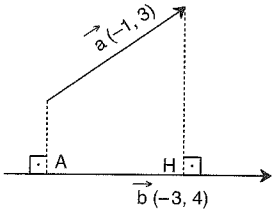


$\Rightarrow \overrightarrow{AH} = ?$

A) $\left(-\frac{4}{5}, \frac{3}{5}\right)$ B) $\left(\frac{8}{5}, \frac{6}{5}\right)$ C) $\left(\frac{4}{5}, \frac{3}{5}\right)$

D) $\left(\frac{7}{5}, \frac{4}{5}\right)$ E) $\left(\frac{2}{5}, -\frac{4}{5}\right)$

4.

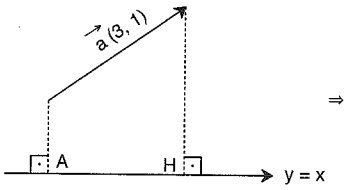


$\Rightarrow \overrightarrow{AH} = ?$

A) $\left(-\frac{9}{5}, \frac{12}{5}\right)$ B) $\left(\frac{3}{5}, \frac{4}{5}\right)$ C) $\left(\frac{1}{5}, \frac{4}{5}\right)$

D) $\left(-\frac{1}{3}, \frac{3}{5}\right)$ E) (– 3, 4)

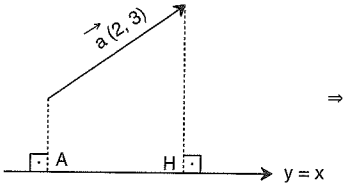
5.



$\Rightarrow |\overrightarrow{AH}| = ?$

A) 2 B) $\sqrt{5}$ C) $\sqrt{6}$ D) $\sqrt{7}$ E) $2\sqrt{2}$

6.



$\Rightarrow |\overrightarrow{AH}| = ?$

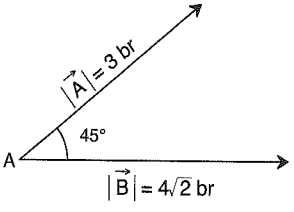
A) 1 B) $\sqrt{5}$ C) $\sqrt{7}$ D) $\frac{5\sqrt{2}}{2}$ E) $7\sqrt{5}$

7. $|\vec{a}| = 4$ br $|\vec{b}| = 2$ br $\vec{a} \perp \vec{b}$

$\Rightarrow |\vec{a} - \vec{b}| = ?$

A) $\sqrt{5}$ B) $2\sqrt{5}$ C) 4 D) 5 E) 6

8.



$\Rightarrow |\overrightarrow{A} - \overrightarrow{B}| = ?$

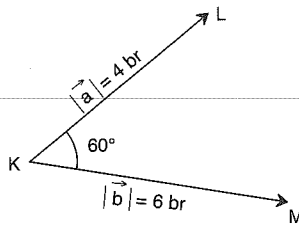
A) $2\sqrt{2}$ B) 4 C) 5 D) $\sqrt{17}$ E) $\sqrt{35}$

PUZA YAYINLARI

www.ztcprep.com

PUZA YAYINLARI

9.



$\Rightarrow |\vec{a} + \vec{b}| = ?$

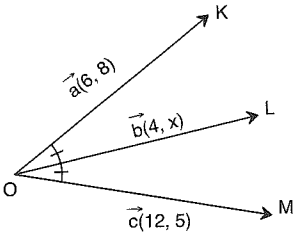
A) $3\sqrt{6}$ B) 8 C) $\sqrt{65}$ D) $2\sqrt{19}$ E) $6\sqrt{2}$

10. $|\vec{a}| = 8$ br $|\vec{b}| = 6$ br $|\vec{a} - \vec{b}| = 8$ br

$\Rightarrow \vec{a} \cdot \vec{b} = ?$

A) 12 B) 18 C) 24 D) 36 E) 48

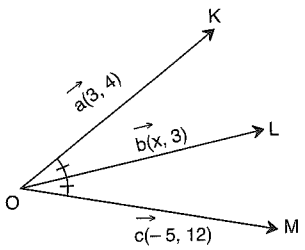
11.



$\Rightarrow x = ?$

A) $\frac{28}{9}$ B) $\frac{11}{13}$ C) $\frac{9}{11}$ D) $\frac{7}{9}$ E) $\frac{5}{7}$

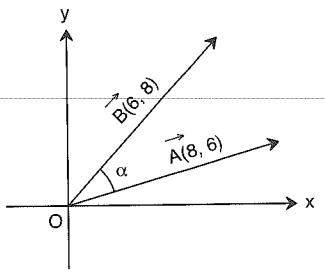
12.



$\Rightarrow x = ?$

A) $\frac{1}{4}$ B) $\frac{3}{8}$ C) $\frac{5}{8}$ D) 3 E) 4

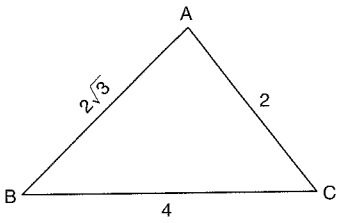
13.



$\Rightarrow \sin\alpha = ?$

A) $\frac{1}{5}$ B) $\frac{5}{24}$ C) $\frac{7}{24}$ D) $\frac{7}{25}$ E) $\frac{24}{25}$

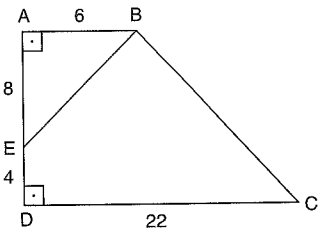
14.



$|AC| = 2$ br
$|BC| = 4$ br
$|AB| = 2\sqrt{3}$ br
$\Rightarrow \overrightarrow{BA} \cdot \overrightarrow{AC} = ?$

A) $-2\sqrt{3}$ B) -2 C) 0 D) 1 E) $2\sqrt{3}$

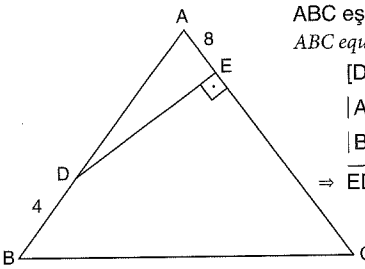
15.



ABCD dik yamuk
ABCD right trapezoid
$|AB| = 6$ br
$|AE| = 8$ br
$|ED| = 4$ br
$|DC| = 22$ br
$\Rightarrow \overrightarrow{BE} \cdot \overrightarrow{BC} = ?$

A) -200 B) -100 C) 0 D) 100 E) 200

16.



ABC eşkenar üçgen
ABC equilateral triangle
$[DE] \perp [AC]$
$|AE| = 8$ br
$|BD| = 4$ br
$\Rightarrow \overrightarrow{ED} \cdot \overrightarrow{BC} = ?$

A) -240 B) -120 C) 120 D) 200 E) 240

www.ztcprep.com

1. $\vec{A}(6,m)$ $\vec{B}(n,7)$ $\overrightarrow{AB}(0,2)$

$\Rightarrow m+n=?$

A) 11 B) 10 C) 9 D) 8 E) 7

2. A(2, 3) B(–4, p) C(k, 3) D(6, 1)

$\overrightarrow{AB} = \overrightarrow{CD}$

$\Rightarrow k + p = ?$

A) 15 B) 13 C) 10 D) 8 E) 7

3. $\vec{A}(2-x,4)$ $\vec{B}(2,8)$ $\vec{A} // \vec{B}$

$\Rightarrow x=?$

A) –1 B) 1 C) 2 D) 3 E) 4

4. $\vec{A}(x,2)$ $\vec{B}(3,-5)$

$|\vec{A}+\vec{B}|=|\vec{A}-\vec{B}|$

$\Rightarrow x=?$

A) – 2 B) –1 C) $\frac{1}{2}$ D) $\frac{1}{4}$ E) $\frac{10}{3}$

5. $\vec{A}(1,3)$ $\vec{B}(a,-2)$ $\vec{A}\cdot\vec{B}=2$

$\Rightarrow a=?$

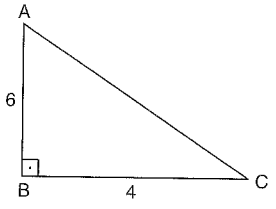
A) 4 B) 5 C) 6 D) 7 E) 8

6. $\vec{A}(3,1)$ $\vec{B}(-1,2)$ $\vec{C}(2,10)$ $x\vec{A}+y\vec{B}=\vec{C}$

$\Rightarrow x+y=?$

A) 5 B) 6 C) 7 D) 8 E) 9

7.



[AB] ⊥ [BC]

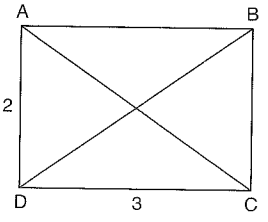
|AB| = 6 br

|BC| = 4 br

$\Rightarrow \overrightarrow{AB}\cdot\overrightarrow{AC}=?$

A) 6 B) 12 C) 24 D) 36 E) 72

8.



ABCD dikdörtgen

ABCD rectangle

|AD| = 2 br

|DC| = 3 br

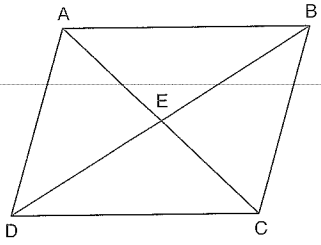
$\Rightarrow \overrightarrow{DB}\cdot\overrightarrow{AC}=?$

A) – 5 B) – 4 C) 4 D) 5 E) 13

PUZA YAYINLARI

www.ztcprep.com

9.



ABCD eşkenar dörtgen
ABCD rhombus
$|AC| = 8$ br
$|BD| = 6$ br
$\Rightarrow \overrightarrow{EC} \cdot (\overrightarrow{AB} + \overrightarrow{BE}) = ?$

A) 9 B) 12 C) 15 D) 16 E) 20

10. $\vec{x} = (a-1)\vec{e_1} + a\vec{e_2}$
$\vec{y} = (a+2)\vec{e_1} - a\vec{e_2}$
$\vec{x} \perp \vec{y}$
$\Rightarrow a = ?$

A) -2 B) -1 C) 0 D) 1 E) 2

11. $2\vec{x} - \vec{y} = (-1, 3)$
$\vec{x} + 2\vec{y} = (7, 4)$
$\Rightarrow \vec{x} \cdot \vec{y} = ?$

A) -2 B) -4 C) 3 D) 5 E) 7

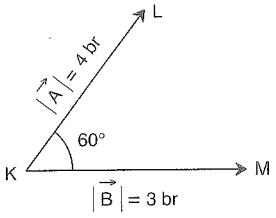
12. A(5, –4) B(2, 3) C(9, x)
$\overrightarrow{AB} \perp \overrightarrow{BC}$
$\Rightarrow x = ?$

A) 2 B) 3 C) 4 D) 5 E) 6

13. $\vec{A} + \vec{B} = (5, 2)$
$|\vec{A}|^2 + |\vec{B}|^2 = 13$
$\Rightarrow \langle \vec{A}, \vec{B} \rangle = ?$

A) 2 B) 3 C) 5 D) 7 E) 8

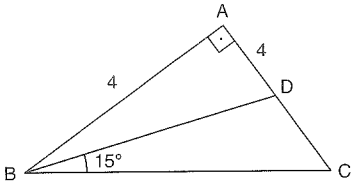
14.



$\Rightarrow 4\vec{A} \cdot 3\vec{B} = ?$

A) 144 B) 72 C) 36 D) 18 E) 9

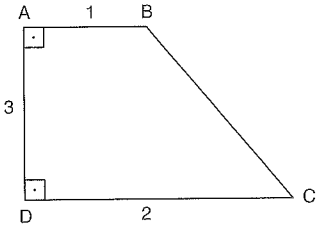
15.



$[AB] \perp [AC]$
$|AB| = |AD| = 4$ br
$m(\widehat{DBC}) = 15°$
$\Rightarrow \overrightarrow{AB} \cdot (\overrightarrow{BD} + \overrightarrow{BC})$

A) -2 B) -4 C) -8 D) -16 E) -32

16.



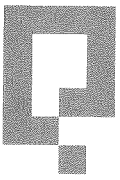
ABCD dik yamuk
ABCD right trapezoid
$|AB| = 1$br
$|AD| = 3$br
$|DC| = 2$br
$\Rightarrow \langle \overrightarrow{DC}, \overrightarrow{BC} \rangle = ?$

A) -2 B) -1 C) 1 D) 2 E) 4

PUZA YAYINLARI

www.ztcprep.com

ZTC زنگنه مجموعه موسسات



VEKTÖRLER VECTORS
Yanıt Anahtarı Answer Key

TEST 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B	A	D	C	E	B	E	B	E	D	B	C	B	D	B	B

TEST 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
D	C	E	B	D	B	A	D	E	E	A	E	D	E	B	A

TEST 3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	A	C	A	B	A	C	A	C	B	B	C	A	D	A	B

TEST 4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	B	B	A	E	D	B	D	D	B	A	B	D	C	C	A

TEST 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	B	B	E	E	B	B	A	D	E	D	E	E	B	E	D

www.ztcprep.com