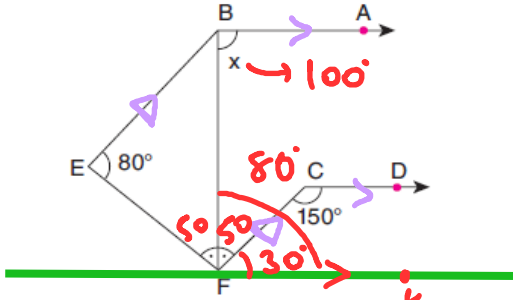


ÜÇGENLER 1

1.



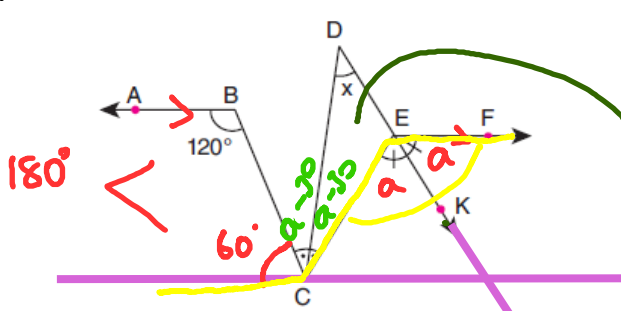
Şekilde, $[BA \parallel [CD$, $[EB \parallel [FC$, $[FB]$ açkırtay,

$m(\widehat{BEF}) = 80^\circ$, $m(\widehat{FCD}) = 150^\circ$

Yukarıdaki verilere göre, $m(\widehat{FBA}) = x$ kaç derecedir?

- A) 80 B) 85 C) 90 D) 95 E) 100

2.

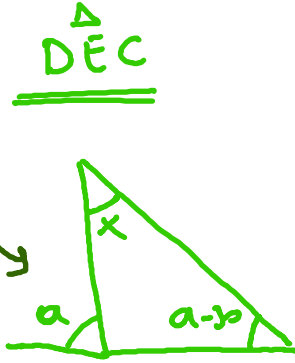


Şekilde, $[BA \parallel [EF$, $[CD]$ ve $[EK]$ açkırtaylar

$m(\widehat{ABC}) = 120^\circ$

Yukarıdaki verilere göre, $m(\widehat{CDK}) = x$ kaç derecedir?

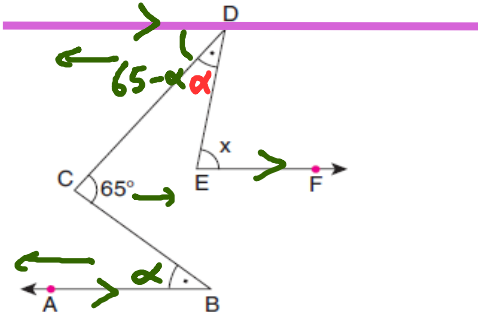
- A) 30 B) 35 C) 40 D) 45 E) 60



$$x + a - 30 = a$$

$$x = 30^\circ$$

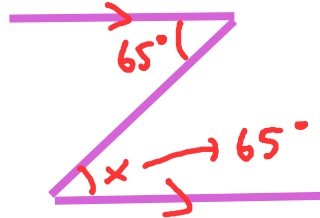
3.



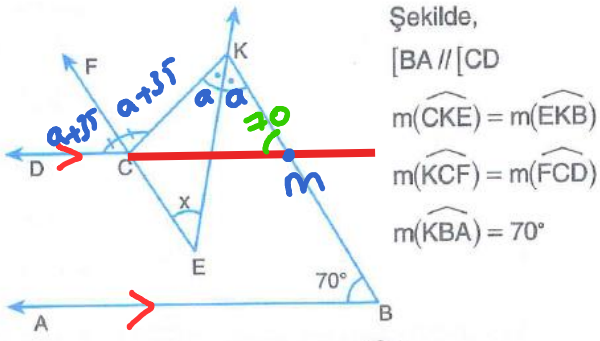
Şekilde, $[EF \parallel [BA$, $m(\widehat{DCB}) = 65^\circ$

Yukarıdaki şekilde, $m(\widehat{CDE}) = m(\widehat{CBA})$ olduğuna göre, $m(\widehat{DEF}) = x$ kaç derecedir?

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

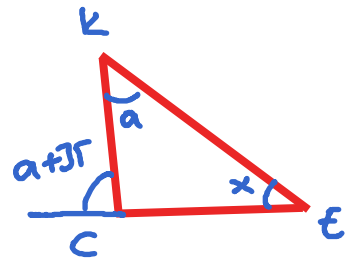


4.



Yukarıdaki verilere göre, $m(\widehat{FEK}) = x$ kaç derecedir?

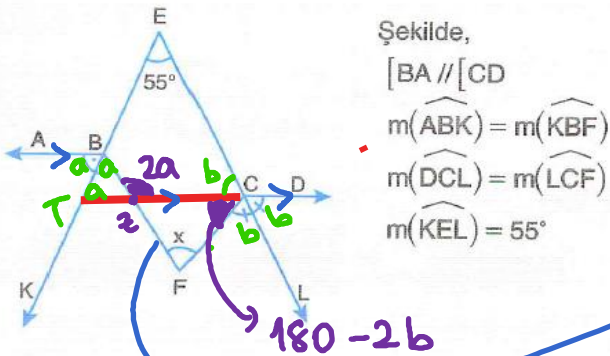
- A) 30 B) 35 C) 40 D) 45 E) 50



$$a + x = a + 35$$

$$x = 35$$

5.



Yukarıdaki verilere göre, $m(\widehat{BFC}) = x$ kaç derecedir?

- A) 80 B) 75 C) 70 D) 65 E) 55

$\triangle TEC$

$$a + b + 55 = 180$$

$$a + b = 125^\circ$$

$\triangle CFZ$

$$180 - 2b + x = 2a$$

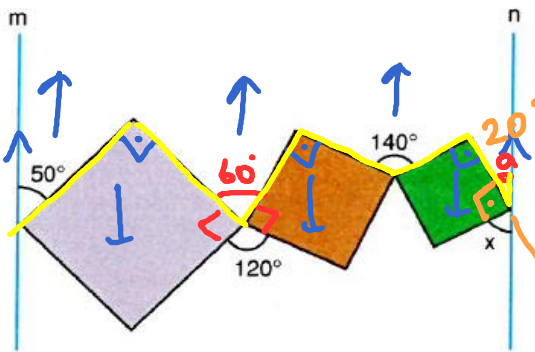
$$x = 2a + 2b - 180$$

$$x = 250 - 180$$

$$x = 70^\circ$$

6.

Aşağıda birbirine paralel m ve n doğrularının arasına yerleştirilmiş olan kareler ile bu şekiller arasında oluşan açılardan bazıları verilmiştir.



$$50 + 60 + 140 + a = 270$$

$$250 + a = 270$$

$$a = 20^\circ$$

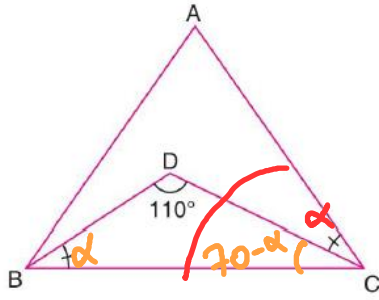
Buna göre, x açısının ölçüsü kaç derecedir?

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

$$110 + x = 180$$

$$x = 70^\circ$$

7.



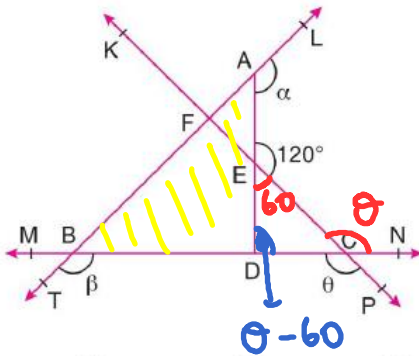
$$70 - \alpha + \alpha = 70$$

ABC ve DBC üçgen, $m(\widehat{DBC}) = m(\widehat{DCA})$, $m(\widehat{BDC}) = 110^\circ$

Yukarıdaki verilere göre, $m(\widehat{BCA})$ kaç derecedir?

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

8.



$$\alpha + \beta + \theta - 60 = 360$$

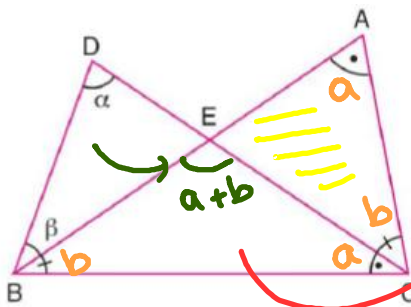
$$\alpha + \beta + \theta = 420$$

$m(\widehat{DAL}) = \alpha$, $m(\widehat{TBN}) = \beta$, $m(\widehat{MCP}) = \theta$, $m(\widehat{AEC}) = 120^\circ$

Yukarıdaki verilere göre, $\alpha + \beta + \theta$ toplamı kaç derecedir?

- A) 240 B) 360 C) 420 D) 460 E) 480

9.



$$\alpha + \beta = a + b$$

$\triangle BEC$

$$2a + 2b = 180$$

ABC üçgen, $m(\widehat{BAC}) = m(\widehat{BCD})$, $m(\widehat{ACD}) = m(\widehat{ABC})$ $\alpha + \beta = a + b = 90$

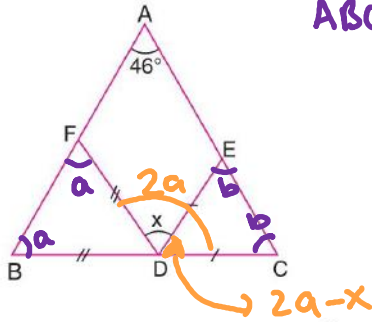
$m(\widehat{ABD}) = \beta$, $m(\widehat{BDC}) = \alpha$, $\alpha - \beta = 20^\circ$

Yukarıdaki verilere göre, α kaç derecedir?

- A) 75 B) 65 C) 55 D) 45 E) 35

$$\begin{array}{r} \alpha + \beta = 90 \\ + \quad \alpha - \beta = 20 \\ \hline 2\alpha = 110 \\ \alpha = 55 \end{array}$$

10.



$$\triangle ABC \rightarrow a+b+c=180$$

$$a+b=134$$

$$\triangle DEC$$

$$2a-x+2b=180$$

ABC üçgen, $|BD| = |FD|$, $|CD| = |DE|$, $m(\widehat{BAC}) = 46^\circ$

Yukarıdaki verilere göre, $m(\widehat{FDE}) = x$ kaç derecedir?

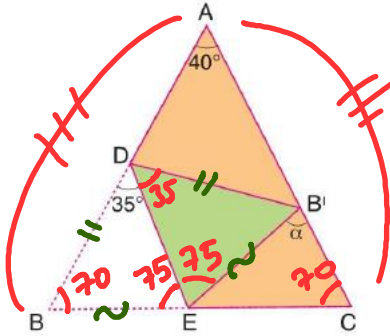
- A) 88 B) 90 C) 92 D) 94 E) 96

$$2a+2b-180=x$$

$$268-180=x$$

$$88^\circ=x$$

11.



$$\alpha+70=75+75$$

$$\alpha=80^\circ$$

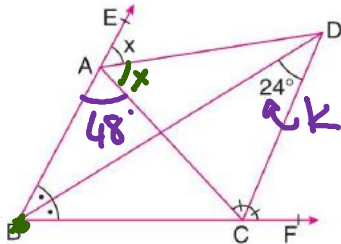
$|AB| = |AC|$, $m(\widehat{BAC}) = 40^\circ$, $m(\widehat{BDE}) = 35^\circ$

Büşra, ikizkenar üçgen biçimindeki kağıdı B noktası B' noktası ile çıkışacak şekilde DE boyunca katlıyor.

Buna göre, $m(\widehat{FB'C}) = \alpha$ kaç derecedir?

- A) 75 B) 80 C) 85 D) 90 E) 95

12.



aynı

ABC üçgen, $[BD]$ iç açıortay, $[CD]$ dış açıortay

$m(\widehat{BDC}) = 24^\circ$

Yukarıdaki verilere göre, $m(\widehat{EAD}) = x$ kaç derecedir?

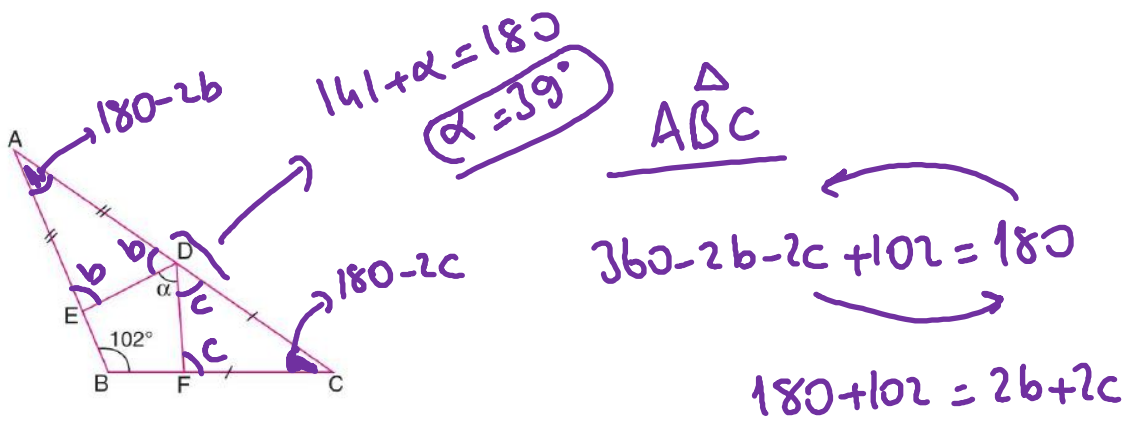
- A) 66 B) 68 C) 72 D) 74 E) 76

$$2x+48=180$$

$$2x=132$$

$$x=66$$

13.

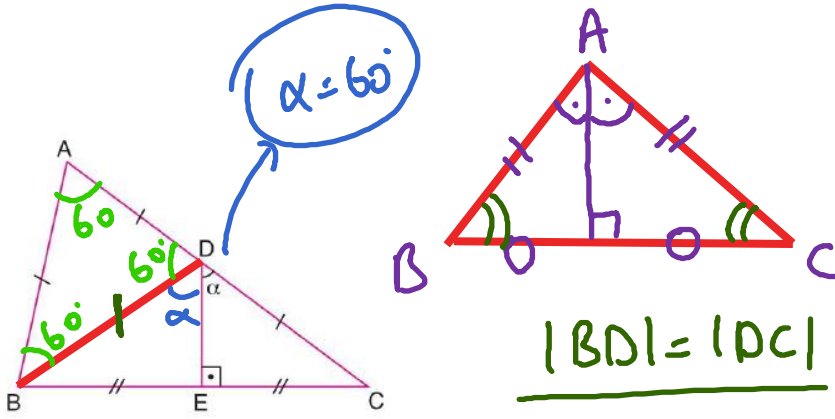


ABC üçgen, $|AE| = |AD|$, $|DC| = |FC|$, $m(\widehat{ABC}) = 102^\circ$

Yukarıdaki verilere göre, $m(\widehat{EDF}) = \alpha$ kaç derecedir?

- A) 39 B) 78 C) 102 D) 140 E) 141

14.

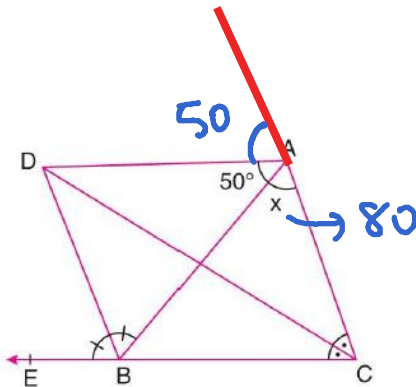


ABC üçgen, $[DE] \perp [BC]$, $|AB| = |AD| = |DC|$, $|BE| = |EC|$

Yukarıdaki verilere göre, $m(\widehat{CDE}) = \alpha$ kaç derecedir?

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

15.

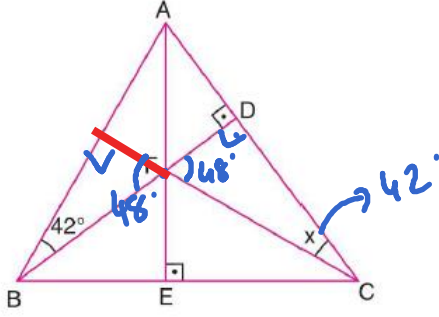


$B \in [CE]$, $[CD]$ ve $[BD]$ açıortaydır. $m(\widehat{BAD}) = 50^\circ$

Yukarıdaki verilere göre, $m(\widehat{BAC}) = x$ kaç derecedir?

- A) 50 B) 60 C) 70 D) 80 E) 85

16.

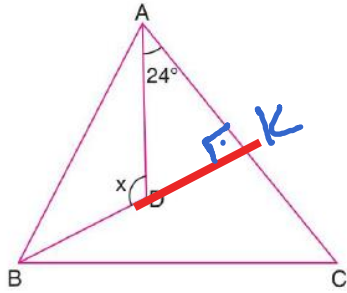


ABC üçgen, $[BD] \perp [AC]$, $[AE] \perp [BC]$, $m(\widehat{ABD}) = 42^\circ$

Yukarıdaki verilere göre, $m(\widehat{ACF}) = x$ kaç derecedir?

- A) 40 B) 42 C) 44 D) 46 E) 48

17.



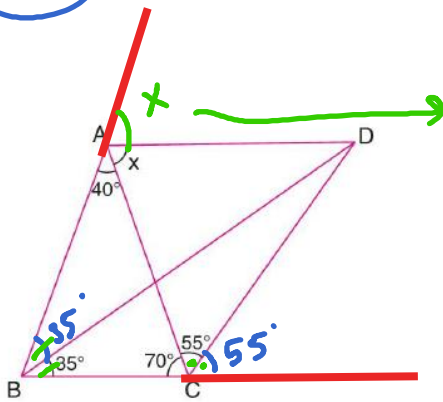
$$x = 114$$

ABC üçgen, D diklik merkezi, $m(\widehat{DAC}) = 24^\circ$

Yukarıdaki verilere göre, $m(\widehat{ADB}) = x$ kaç derecedir?

- A) 66 B) 114 C) 132 D) 142 E) 156

18.



$$2x + 40 = 180$$

$$x = 70$$

ABCD dörtgen, $m(\widehat{BAC}) = 40^\circ$, $m(\widehat{ACD}) = 55^\circ$

$m(\widehat{CBD}) = 35^\circ$, $m(\widehat{ACB}) = 70^\circ$

Yukarıdaki verilere göre, $m(\widehat{CAD}) = x$ kaç derecedir?

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

19.

Diagram illustrating a geometric configuration involving points A, B, C, D, and E. A horizontal line k passes through points B and C. Point E lies on segment AC. The angle $\angle BCE$ is marked as 60° . The angle $\angle ECD$ is also marked as 60° . The angle $\angle ADB$ is marked as 60° . Handwritten annotations show calculations:

- Near point A, segments AB and AE are both labeled b , and their sum is noted as $2b$.
- A calculation shows $4b = 180$, leading to $b = 45^\circ$ (boxed).
- Another calculation shows $a + 105 = 180$, leading to $a = 75^\circ$ (boxed).

The final conclusion states: $m(\widehat{ADB}) = m(\widehat{CDB}), m(\widehat{CBD}) = m(\widehat{BAC})$.

$$m(\widehat{BCA}) = m(\widehat{ACD}) = 60^\circ$$

A) 67,5 B) 70 C) 75 D) 85 E) 90

$$|AC| = |AC'|$$

21:05

$m(\widehat{ACC'}) = 20^\circ$ olduğuna göre α kaç derecedir?

A) 50 B) 100 C) 120 D) 130 E) 140

A rhombus ABCD is shown with diagonal AC. The vertices are labeled A (top), B (left), C (bottom), and D (right). Angle B is 60° and angle C is 70° . Side AB has a single tick mark, and side BC has a double tick mark. Side AD is red and has a single tick mark, while side CD is blue and has a double tick mark. The diagonal AC is drawn. Angle DAC is 40° and angle BAC is 40° . Angle ACD is 70° and angle BCD is 40° . Angle ADC is labeled x .

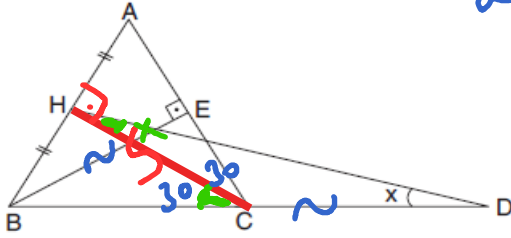
$$|AD| = |DC|$$

$$|B_D| = |O_C|$$

$$m(\widehat{ABD}) = 60^\circ, m(\widehat{DBC}) = 70^\circ$$

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

22.



ABC eşkenar üçgen, $[BE] \perp [AC]$,

$|AH| = |HB|$, $|CD| = |BE|$

Yukarıdaki verilere göre, $m(\widehat{BDH}) = x$ kaç derecedir?

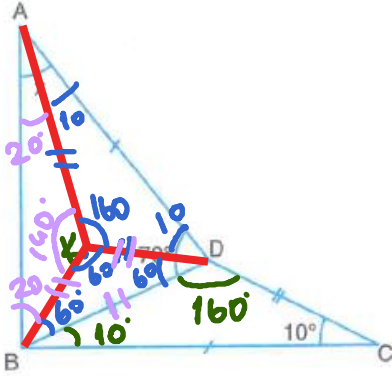
- A) 10 B) 15 C) 20 D) 25 E) 30

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

$$2x = 30$$

$$x = 15'$$

23.



Şekilde,

$$|AD| = |BC|$$

$$|BD| = |CD|$$

$$m(\widehat{ADB}) = 70^\circ$$

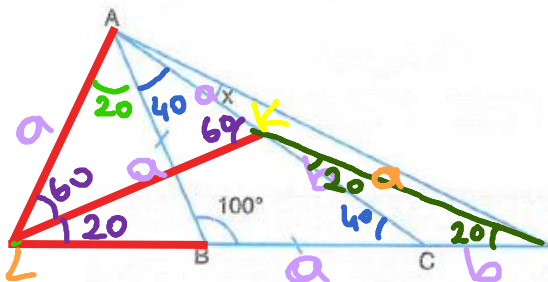
$$m(\widehat{DCB}) = 10^\circ$$

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

Yukarıdaki verilere göre, $m(\widehat{BAD}) = x$ kaç derecedir?

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

24.



ABC bir

üçgen

$$|AB| = |BC|$$

$$|AC| = |BD|$$

$$m(\widehat{ABD}) = 100^\circ$$

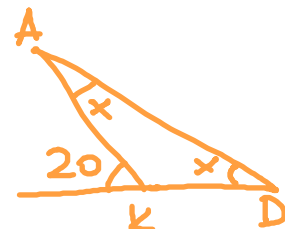
$$m(\widehat{CAD}) = x$$

Yukarıdaki verilere göre, $m(\widehat{CAD}) = x$ kaç derecedir?

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

$\triangle KLD$

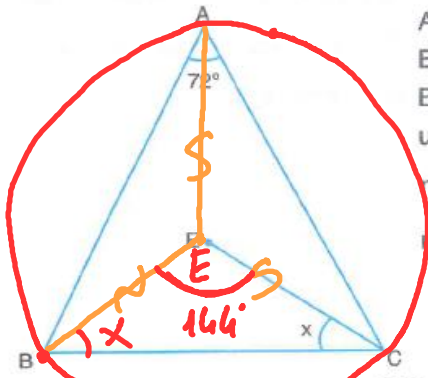
$\triangle AKD$



$$2x = 20$$

$$x = 10'$$

25.



ABC üçgeninde
E noktasının A,
B, C noktalarına
uzaklıkları eşittir.
 $m(\widehat{BAC}) = 72^\circ$
 $m(\widehat{ECB}) = x$

Yukarıdaki verilere göre, $m(\widehat{ECB}) = x$ kaç derecedir?

- A) 9 B) 12 C) 16 D) 18 E) 36

$$|AE| = |EB| = |EC|$$

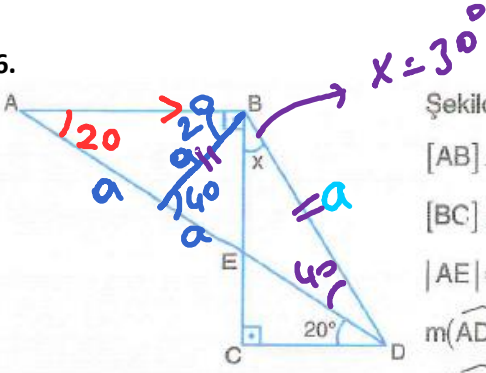
$$m(\widehat{BC}) = 144^\circ$$

$$2x + 144 = 180$$

$$2x = 36$$

$$x = 18^\circ$$

26.

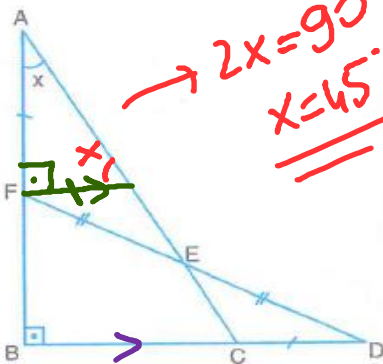


Şekilde,
 $[AB] \perp [BC]$
 $[BC] \perp [CD]$
 $|AE| = 2 \cdot |DB|$
 $m(\widehat{ADC}) = 20^\circ$
 $m(\widehat{CBD}) = x$

Yukarıdaki verilere göre, $m(\widehat{CBD}) = x$ kaç derecedir?

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

27.



ABC ve FBD
dik üçgenlerdir
 $|EF| = |ED|$
 $|CD| = |AF|$
 $m(\widehat{BAC}) = x$

Yukarıdaki verilere göre, $m(\widehat{BAC}) = x$ kaç derecedir?

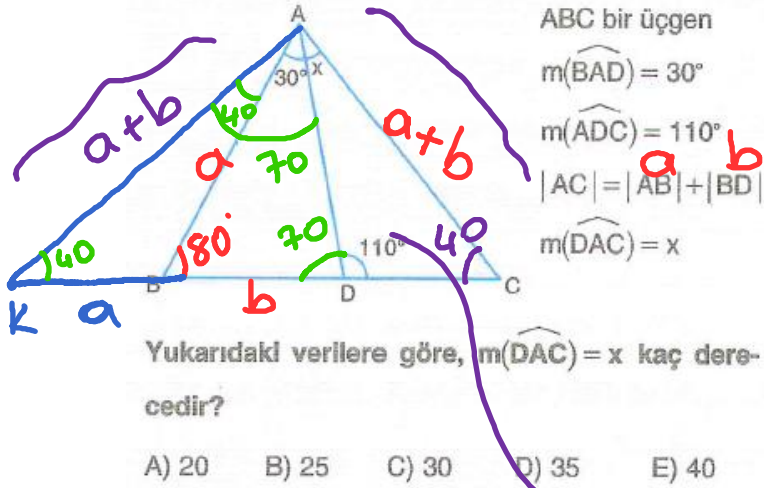
- A) 30 B) 35 C) 40 D) 45 E) 60

$$|FK| = |CD|$$

$$2x = 90^\circ$$

$$x = 45^\circ$$

28.



$$\triangle AKD$$

$$|AK| = |KD|$$

$$\triangle AKC$$

$$|AK| = |AC|$$

$$150 + x = 180$$

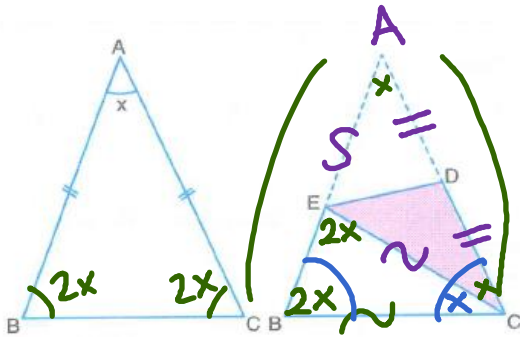
$$x = 30^\circ$$

$$|AE| = |EC|$$

$$5x = 180^\circ$$

$$x = 36^\circ$$

29.

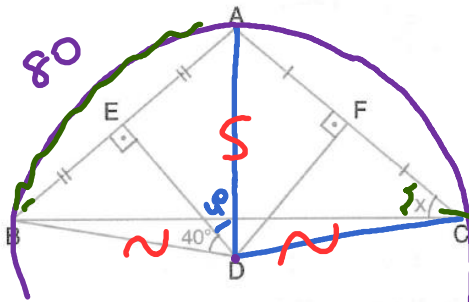


$|AB| = |AC|$ olan ikizkenar üçgende, A köşesi C köşesi ile çıkışacak şekilde, [ED] boyunca katlanarak EBCD dörtgeni elde ediliyor.

Katlama sonucunda $|CB| = |CE|$ olduğuna göre, $m(\widehat{BAC}) = x$ kaç derecedir?

- A) 30 B) 36 C) 40 D) 42 E) 45

30.



ABC üçgen, $[DE] \perp [AB]$, $[DF] \perp [AC]$, $|AE| = |EB|$

$|AF| = |FC|$, $m(\widehat{EDB}) = 40^\circ$, $m(\widehat{ACB}) = x$

Yukarıdaki verilere göre, x kaç derecedir?

- A) 50 B) 45 C) 40 D) 30 E) 25

$$|AD| = |BD| = |DC| = r$$

$$m(\widehat{AB}) = 80^\circ$$

$$2x = 80$$

$$x = 40^\circ$$

31.

Üçgenin iç açılarından birinin ölçüsünün 90° den büyük olması durumunda üçgene geniş açılı üçgen denir.

Buna göre, aşağıdakilerden hangisi geniş açılı bir üçgenin kenar uzunlukları olamaz?

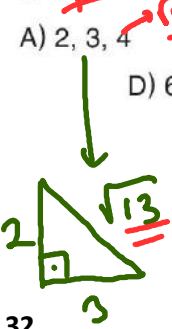
A) 2, 3, 4

B) 4, 7, 5

C) 6, 4, 3

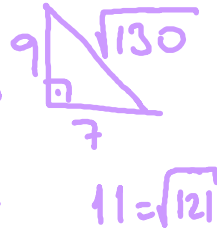
D) 6, 7, 10

E) 9, 7, 11

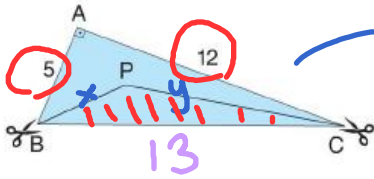


$$3-4-5 \rightarrow 3^2+4^2=25 \rightarrow \sqrt{25}=5$$

$$36+49=85 \rightarrow \sqrt{85} < \sqrt{100}$$

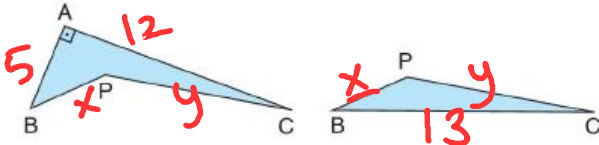


32.



$$13 < x+y < 17$$

Dik kenar uzunlukları 5 birim ve 12 birim olan dik üçgen biçimindeki kâğıt BP ve CP doğruları boyunca kesilerek iki parçaya ayrılıyor.



$$13 < x+y < 17$$

$$26 < 2x+2y < 34$$

$$33$$

Yukarıdaki verilere göre, oluşan kâğıt parçalarının çevrelerinin toplamının en büyük tam sayı değeri kaç birimdir?

A) 30

B) 42

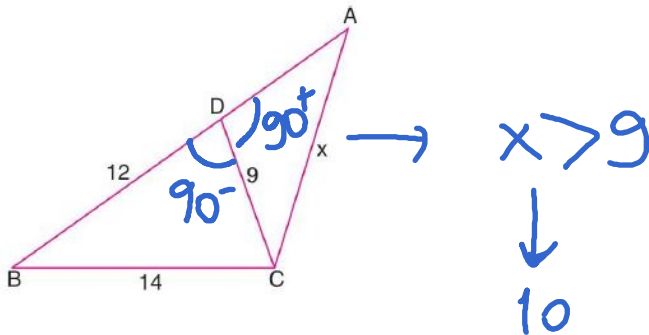
C) 58

D) 63

E) 65

$$17+13+33=63$$

33.



ABC üçgen, $|BD| = 12$ birim, $|BC| = 14$ birim

$|DC| = 9$ birim, $|AC| = x$ birim

Yukarıdaki verilere göre, x in en küçük tam sayı değeri kaçtır?

A) 9

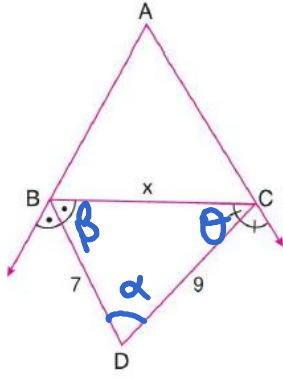
B) 10

C) 11

D) 12

E) 13

34.



$$\alpha = 90 - \frac{m(\hat{A})}{2}$$

$$\alpha < 90^\circ$$

$$\alpha = 90^\circ$$

$$x = \sqrt{130}$$

$$\beta = 90^\circ$$

$$x^2 + 49 = 81$$

$$x^2 = 32$$

$$x = \sqrt{32}$$

ABC üçgen, [BD] ile [CD] açıortay

|BD| = 7 cm, |DC| = 9 cm

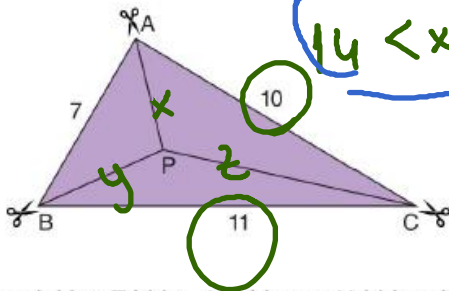
Yukarıdaki verilere göre, |BC| = x in alabileceği en büyük tam sayı değeri kaç cm dir?

- A) 10 B) 11 C) 12 D) 15 E) 16

$$\sqrt{32} < x < \sqrt{130}$$

$$11$$

35.

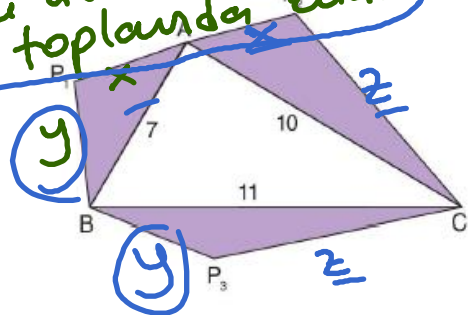


Kenar uzunlukları 7 birim, 10 birim ve 11 birim olan üçgen şeklindeki karton AP, BP, CP doğruları boyunca kesilerek üç parçaya ayrılıyor. Daha sonra bu üç parça aşağıdaki gibi birleştiriliyor.

$$u = \frac{\text{Çevre}}{2} = 14$$

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

$$14 < x+y+z < \text{iki u'nun kenar toplamından büyük}$$



Yukarıdaki verilere göre, oluşan şeklin dış çevresinin uzunluğu en fazla kaç birimdir?

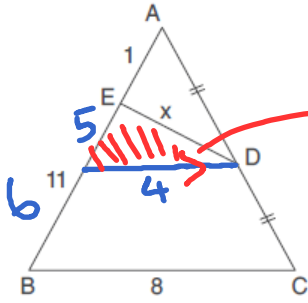
- A) 20 B) 29 C) 40 D) 41 E) 42

$$14 < x+z+y < 28$$

$$28 < 2x+2z+2y < 42$$

$$41$$

36.



$$1 < x < 9$$

2, 3, 4, 5, 6, 7, 8

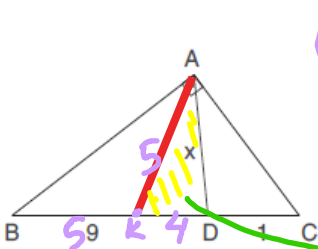
ABC bir üçgen, $|AD| = |CD|$, $|AE| = 1$ cm, $|BE| = 11$ cm,

$|BC| = 8$ cm, $|ED| = x$ cm

Yukarıdaki verilere göre x kaç tam sayı değeri alır?

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

37.



$$x^2 = 91$$

$$x = 3$$

BAC dik üçgen, $[BA] \perp [AC]$, $|DC| = 1$ cm

$|BD| = 9$ cm, $|AD| = x$ cm, $D \in [BC]$

Yukarıdaki verilere göre x kaç farklı tam sayı değeri alır?

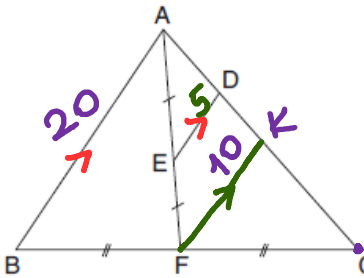
- A) 5 B) 6 C) 7 D) 8 E) 9

$$1 < x < 9$$

$$3 \leq x < 9$$

3, 4, 5, 6, 7, 8

38.



$$|FC| = 10$$

$$|AB| = 20$$

$$|AC| - |BC| < 20 < |AC| + |BC|$$

$$21$$

$$20 + 21 = 41$$

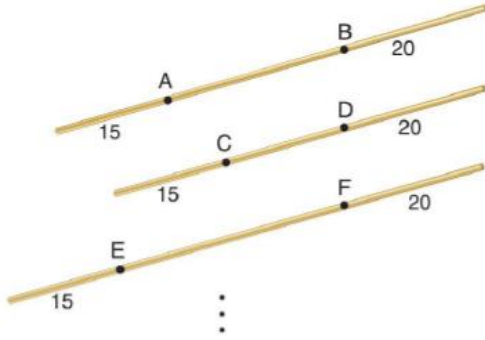
ABC bir üçgen, $[DE] \parallel [AB]$, $|BF| = |FC|$, $|AE| = |EF|$,

$|ED| = 5$ cm

Yukarıdaki verilere göre ABC üçgeninin çevresinin uzunluğunun alabileceği en küçük tam sayı değeri kaçtır?

- A) 21 B) 26 C) 31 D) 36 E) 41

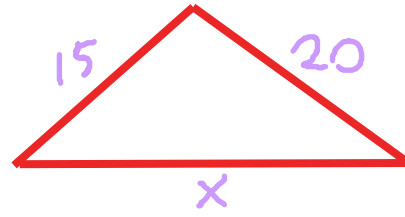
39.



Esra, uzunlukları birbirinden farklı birer tam sayı olan bakır telleri, sol ucundan 15 birim, sağ ucundan 20 birim uzaklıktan büküp uç noktalarını birleştirerek her biri ile üçgenler oluşturuyor.

Buna göre, Esra'nın elinde en fazla kaç tane bakır tel vardır?

- A) 27 B) 28 C) 29 D) 30 E) 31

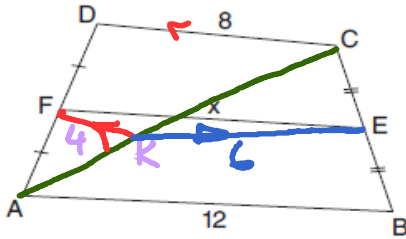


$$5 < x < 35$$

$$6, \dots, 34$$

$$29 \text{ tane}$$

40.



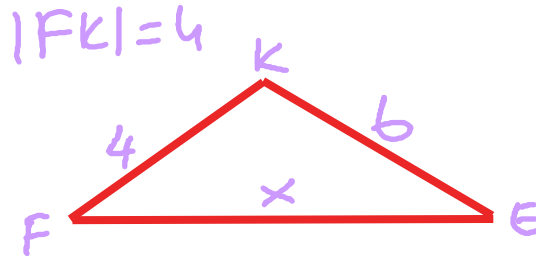
E ve F bulundukları kenarların orta noktaları,

$$|DC| = 8 \text{ birim}$$

$$|AB| = 12 \text{ birim}$$

Yukarıdaki verilere göre, $|EF| = x$ 'in alabileceği tam sayı değerleri toplamı kaçtır?

- A) 36 B) 38 C) 44 D) 52 E) 54



$$2 < x < 10$$

$$\alpha = 180^\circ$$

$$6 + 4 = 10$$

$$3 + 4 + \dots + 10$$

$$\frac{10 \cdot 11}{2} = 55$$

$$55 - 3 = 52$$