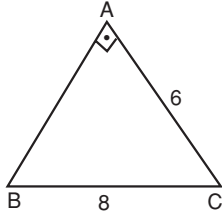


Üçgende Açık - Kenar Bağıntıları

TEST 2

1.



I. üçgen belirtir.

$a + b > c$ olmalı

$$5 + 6 > 11$$

$$11 > 11$$

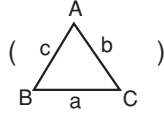
II. si olmaz!

III. sü üçgen belirtir.

$$6 + 3 > 8 > |6 - 3|$$

$$6 + 8 > 3 > |6 - 8|$$

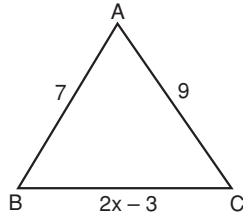
$$8 + 3 > 6 > |8 - 3|$$



Cevap: D

2. $|BC| < |AC| \Rightarrow 2x - 3 < 9$

$\Rightarrow x < 6$ (1) bulunur.



$$9 - 7 < 2x - 3 < 9 + 7$$

$$2 < 2x - 3 < 16$$

$$\Rightarrow \frac{5}{2} < x < \frac{19}{2} \quad (2)$$

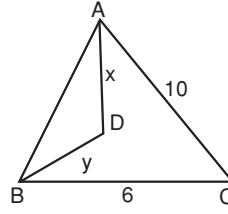
(1) ve (2)'den $\frac{5}{2} < x < 6$ bulunur.

$x = 3, 4, 5$ değerlerini alırlar.

$$3 + 4 + 5 = 12$$

Cevap: B

3.



$$x + y < 10 + 6$$

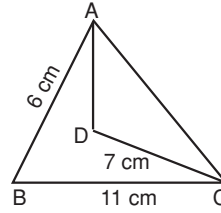
$$x + y < 16$$

$$10 - 6 < |AB| < 10 + 6 \Rightarrow 4 < |AB| < 16$$

$$|AB| < |x + y| \Rightarrow x + y = 5 \text{ olur.}$$

Cevap: A

4.



$$11 - 6 < |AC| < 11 + 6$$

$$5 < |AC| < 17$$

$$\rightarrow 16 = |AC| \text{ olur.}$$

$$|AC| - 7 < |AD| < |AC| + 7$$

$$16 - 7 < |AD| < 16 + 7$$

$$9 < |AD| < 23 \Rightarrow |AD| = 10$$

Cevap: D

5. I. si üçgen belirtir.

$$5 + 7 > 9 > |5 - 7|$$

$$5 + 9 > 7 > |5 - 9|$$

$$7 + 9 > 5 > |7 - 9|$$

II. si üçgen belirtmez!

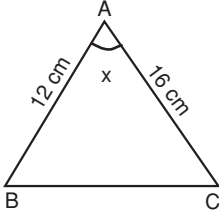
$$3 + 6 > 10$$

III. sü üçgen belirtir.

$$75^\circ + 65^\circ + 40^\circ = 180^\circ$$

Cevap: D

6.



$x > 90^\circ$ olduğundan

$$\sqrt{12^2 + 16^2} < |BC| < 12 + 16$$

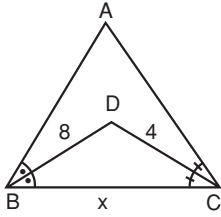
$$20 < |BC| < 28$$

$$|BC| = 21 \text{ seçilir.}$$

$$\widehat{C}(\widehat{ABC}) = 12 + 16 + 21 = 49$$

Cevap: B

7.



Kural gereği

$$s(\widehat{BDC}) = 90^\circ + \frac{s(\widehat{A})}{2}$$

$$\Rightarrow s(\widehat{BDC}) > 90^\circ \text{ dir.}$$

$$\Rightarrow \sqrt{8^2 + 4^2} < x < 8 + 4$$

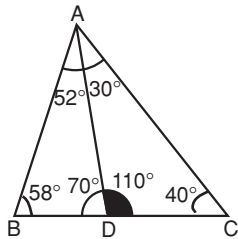
$$\sqrt{80} < x < 12$$

$$\downarrow 9, 10, 11$$

$$\Rightarrow 9 + 10 + 11 = 30$$

Cevap: D

8.



$$|BD| \neq |AD|$$

$$|BD| < |AD|$$

(Küçük açı karşısında küçük kenar bulunur.)

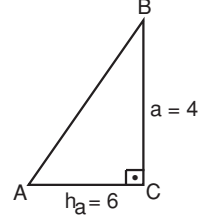
Cevap: C

9. I. üçgen belirtmez!

$s(\widehat{A}) = 95^\circ$ ve en büyük açıdır. Karşısında en büyük kenar bulunmalıdır.

$$a = 6 \not> b = 7$$

II. si için;

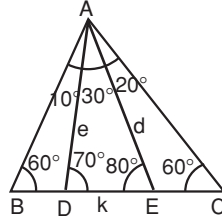


II. si belirtir.

III. sü belirtmez!

Cevap: B

10.



$$80^\circ \rightarrow e, 70^\circ \rightarrow d, 30^\circ \rightarrow k$$

$$e > d > k$$

Cevap: A

11. \widehat{ABC} 'ninde;

$$11 - 5 < y < 11 + 5$$

$$6 < y < 16 \quad \dots\dots (1)$$

 \widehat{DBC} 'ninde;

$$8 - 6 < y < 8 + 6$$

$$2 < y < 14 \quad \dots\dots (2)$$

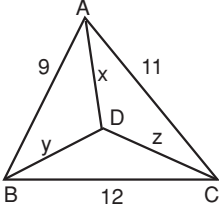
(1) ve (2)'den

$$6 < y < 14 \quad \text{elde edilir,}$$

$$14 - 6 - 1 = 7 \text{ farklı tamsayı}$$

Cevap: D

12.



$$\frac{11 + 9 + 12}{2} < x + y + z < 11 + 9 + 12$$

$$16 < x + y + z < 32$$

en küçük 17 olur.

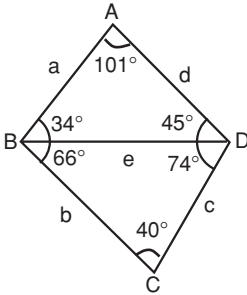
Cevap: D

13. $2(IAD) + IDB + IDC < a + b + c$

$$46 < a + b + c \rightarrow a + b + c = 47$$

Cevap: C

14.

 \widehat{BDC} 'ninde;

$$74^\circ \rightarrow b, 66^\circ \rightarrow c, 40^\circ \rightarrow e$$

$$\Rightarrow b > c > e \text{ dir. (1)}$$

 \widehat{ABD} 'ninde;

$$101^\circ \rightarrow e, 45^\circ \rightarrow a, 34^\circ \rightarrow d$$

$$\Rightarrow e > a > d \text{ dir. (2)}$$

$$(1) \text{ ve } (2)'den \Rightarrow b < c < e < a < d$$

Cevap: A

$$15. s(\widehat{A}) > s(\widehat{B}) \Rightarrow 11 > b \text{ dir. (1)}$$

$$11 - 5 < b < 11 + 5 \Rightarrow 6 < b < 16 \text{ (2)}$$

$$(1) \text{ ve } (2)'den \rightarrow 6 < b < 11$$

$$b = 10 \text{ olur.}$$

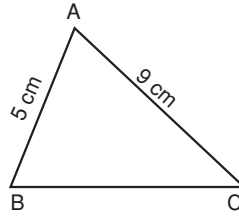
Cevap: D

16. \widehat{BCD} 'ninde;

$$x = 8 \text{ olmalıdır.}$$

Cevap: B

17.



$$s(\widehat{A}) > s(\widehat{B}) \Rightarrow \boxed{IBC} > 9 \text{ olur (1)}$$

$$9 - 5 < IBC < 9 + 5$$

$$\Rightarrow \boxed{4 < IBC < 14} \text{ (2)}$$

$$(1) \text{ ve } (2)'den 9 < IBC < 14$$

$$IBC = 10, 11, 12, 13 \text{ değerlerini alır.}$$

$$\Rightarrow 10 + 11 + 12 + 13 = 46$$

Cevap: A

$$18. \text{ I. } \rightarrow 7 + 9 \not> 16 \quad \text{Üçgen çizilmez!}$$

$$\text{ II. } \rightarrow 3 + 5 \not> 8 \quad \text{Üçgen çizilmez!}$$

$$\text{ III. } \rightarrow 7 + 8 > 17 > 17 - 8$$

$$7 + 12 > 8 > 17 - 12$$

$$8 + 12 > 7 > 18 - 12$$

Şartları sağlıyor. Üçgen çizilir,

Cevap: C