

1. İç açıortay teoremine göre,

$$\frac{|AB|}{|AC|} = \frac{|BD|}{|DC|}$$

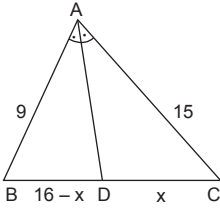
$$\frac{5}{\frac{15}{6}} = \frac{10}{x}$$

$$5x = 60$$

$$x = 12 \text{ dir.}$$

CEVAP: B

2.



İç açıortay teoremine göre

$$\frac{3}{\frac{9}{5}} = \frac{16-x}{x}$$

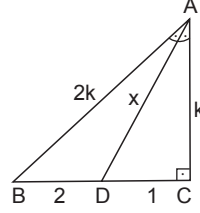
$$3x = 80 - 5x$$

$$8x = 80$$

$$x = 10 \text{ cm dir.}$$

CEVAP: C

3.



$$\frac{|AB|}{|AC|} = \frac{2}{1} \text{ ise } |AB| = 2k \text{ ve } |AC| = k \text{ alınırsa,}$$

ABC dik üçgeninde,

$$(2k)^2 = 3^2 + k^2$$

$$4k^2 = 9 + k^2 \Rightarrow 3k^2 = 9$$

$$k^2 = 3$$

$$k = \sqrt{3}$$

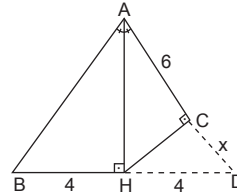
ADC dik üçgeninde,

$$x^2 = 1^2 + (\sqrt{3})^2$$

$$x^2 = 1 + 3 \Rightarrow x^2 = 4 \Rightarrow x = 2$$

CEVAP: B

4.



[AH] açıortay

[AH] \perp [BD] olduğundan ABC ikizkenar üçgendir.

Buradan |BH| = |HD| = 4 cm olur.

AHD dik üçgeninde öklid bağıntısından,

$$4^2 = x \cdot (x + 6)$$

$$16 = x^2 + 6x$$

$$x^2 + 6x - 16 = 0$$

$$+8 \quad -2$$

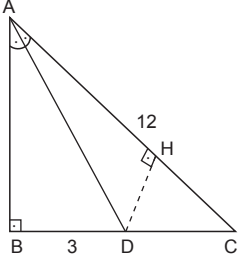
$$(x + 8)(x - 2) = 0 \text{ dan } x = 2 \text{ bulunur.}$$

$$|AB| = |AD| = 8 \text{ dir.}$$

CEVAP: B



5.



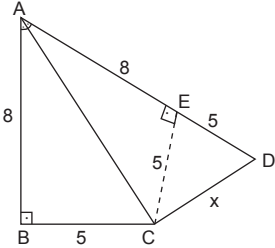
Açıortay doğrusu üzerinden alınan bir noktadan kollara indirilen dikmeler eşit olduğundan

$$|BD| = |DH| = 3 \text{ cm dir.}$$

$$\text{Buna göre, } A(\triangle ADC) = \frac{12 \cdot 3}{2} = 18 \text{ cm}^2 \text{ dir.}$$

CEVAP: B

6.



C den [AD] ye dikme indirilirse

$$|AB| = |AE| = 8 \text{ cm}$$

$$|BC| = |CE| = 5 \text{ cm olur.}$$

$$|ED| = 13 - 8 = 5 \text{ cm dir.}$$

CED dik üçgeninde pisagor bağıntısından

$$5^2 + 5^2 = x^2$$

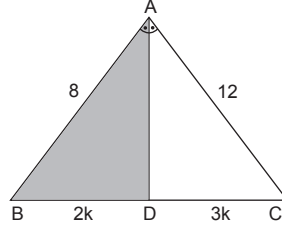
$$25 + 25 = x^2$$

$$50 = x^2$$

$$x = 5\sqrt{2} \text{ olur.}$$

CEVAP: E

7.



[AD] açıortay olduğundan

$$\frac{|AB|}{|AC|} = \frac{|BD|}{|DC|} \Rightarrow \frac{|BD|}{|DC|} = \frac{2}{3}$$

|BD| = 2k ve |DC| = 3k seçilirse

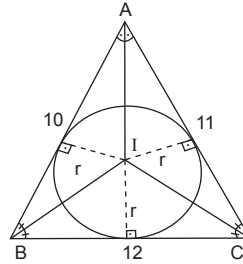
$$\frac{A(\triangle ABD)}{A(\triangle ADC)} = \frac{2k}{3k} \Rightarrow \frac{28}{A(\triangle ADC)} = \frac{2}{3}$$

$$\Rightarrow A(\triangle ADC) = 42 \text{ cm}^2$$

$$A(\triangle ABC) = 42 + 28 = 70 \text{ cm}^2 \text{ dir.}$$

CEVAP: B

8.



I, noktası açıortayların kesim noktası olduğundan

$$\frac{A(\triangle IAB)}{A(\triangle IBC)} = \frac{10}{12}$$

$$= \frac{5}{6} \text{ dir.}$$

CEVAP: B

9.

ABC, üçgeninde G ağırlık merkezi olduğundan

$$2 \cdot (y - 1) = y + 5 \quad 2x = x + 3$$

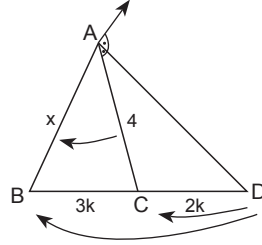
$$2y - 2 = y + 5 \quad x = 3$$

$$y = 7$$

Buna göre, $x + y = 3 + 7 = 10$ dur.

CEVAP: D

11.



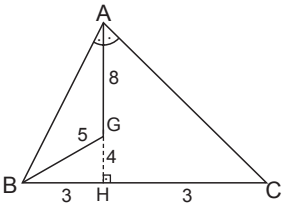
$$2|BC| = 3|CD| \text{ ise } |CD| = 2k, |BC| = 3k$$

alınırsa, ABC üçgeninde dış açıortay teoreminden

$$\frac{2k}{5k} = \frac{4}{x} \Rightarrow x = 10 \text{ cm dir.}$$

CEVAP: B

10.



[AH] açıortay ve G ağırlık merkezi ise [AH] \perp [BC] dir.

Ayrıca $|GH| \cdot 2 = |AG| \Rightarrow |GH| = 4$ cm olur. Buradan,

BGH dik üçgeninden

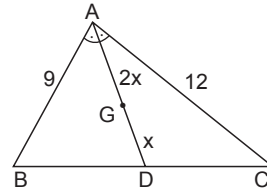
$$4^2 + |BH|^2 = 5^2 \Rightarrow |BH|^2 = 25 - 16$$

$$|BH| = 3 \text{ cm}$$

$$A(\text{ABC}) = \frac{6 \cdot 12}{2} = 36 \text{ cm}^2 \text{ dir.}$$

CEVAP: C

12.



ABC dik üçgeninde pisagor bağıntısından,

$$|AB|^2 + |AC|^2 = |BC|^2$$

$$9^2 + 12^2 = |BC|^2 \Rightarrow |BC|^2 = 225 \Rightarrow |BC| = 15$$

G ağırlık merkezi olduğundan

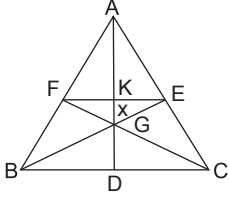
$$|AD| = |BD| = |DC| = \frac{15}{2} \text{ dir.}$$

$$3x = \frac{15}{2} \Rightarrow x = \frac{5}{2} \text{ dir.}$$

CEVAP: C



13.



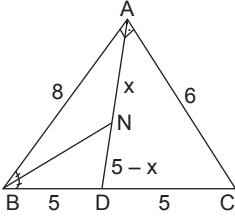
ABC üçgeninde, G ağırlık merkezi olduğundan

$$|KG| = \frac{|AD|}{6}$$

$$|KG| = \frac{36}{6} = 6 \text{ olur.}$$

CEVAP: D

14.



ABC dik üçgeninde pisagor bağıntısından $8^2 + 6^2 = |BC|^2$

$$|BC|^2 = 100 \Rightarrow |BC| = 10$$

$|AD|$ kenarortay olduğundan

$$|BD| = |DC| = |AD| = 5 \text{ cm}$$

ABD üçgeninde açıortay bağıntısından

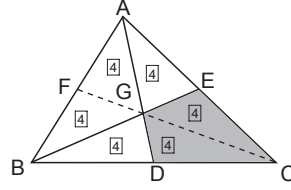
$$\frac{5}{8} = \frac{5-x}{x} \Rightarrow 5x = 40 - 8x$$

$$13x = 40$$

$$x = \frac{40}{13} \text{ dir.}$$

CEVAP: A

15.



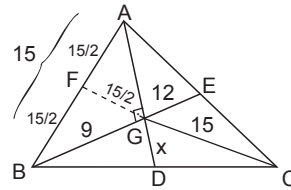
Taralı alan 8 cm^2 ise

$$A(\triangle GEC) = A(\triangle GDC) = 4 \text{ cm}^2 \text{ olur.}$$

$$\begin{aligned} \text{Buna göre, } A(\triangle ABC) &= 6 \cdot A(\triangle GEC) \\ &= 6 \cdot 4 \\ &= 24 \text{ cm}^2 \end{aligned}$$

CEVAP: B

16.



AGB dik üçgeninde pisagor bağıntısından $15^2 = 9^2 + |AG|^2$

$$225 = 81 + |AG|^2$$

$$144 = |AG|^2$$

$$|AG| = 12 \text{ cm}$$

Buna göre, $|AG| = 2 \cdot |GE|$

$$12 = 2x$$

$$x = 6 \text{ cm dir.}$$

CEVAP: C

