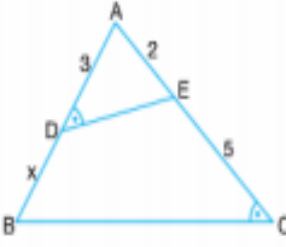



ÜÇGENDE BENZERLİK ÇÖZÜMLÜ SORULAR

- 1)  ABC bir üçgen
 $m(\widehat{ADE}) = m(\widehat{ACB})$
 $|EC| = 5$ cm
 $|AD| = 3$ cm
 $|AE| = 2$ cm

Yukandaki verilene göre, $|DB| = x$ kaç cm dir?

- A) 1 B) $\frac{5}{3}$ C) 2 D) $\frac{7}{3}$ E) 3

ÇÖZÜM:

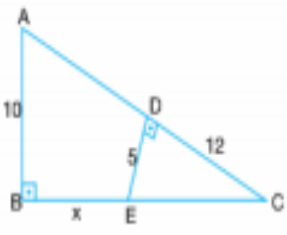
- 1)  $m(\widehat{ADE}) = m(\widehat{BCA})$ ve
A ortak açı ise,
 $m(\widehat{AED}) = m(\widehat{ABC})$
olur.

Buna göre, A. A. A. Benzerlik Teoreminden,

$$\widehat{ABC} \sim \widehat{AED} \Rightarrow \frac{2}{x+3} = \frac{3}{7}$$

$$3x + 9 = 14 \Rightarrow x = \frac{5}{3} \text{ cm olur.}$$

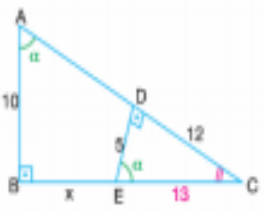
Doğru Cevap: B şıkkı

- 2)  ABC dik üçgen
 $[AB] \perp [BC]$
 $[DE] \perp [AC]$
 $|DC| = 12$ cm
 $|AB| = 10$ cm
 $|DE| = 5$ cm

Yukandaki verilene göre, $|BE| = x$ kaç cm dir?

- A) 9 B) 10 C) 11 D) 12 E) 13

ÇÖZÜM:

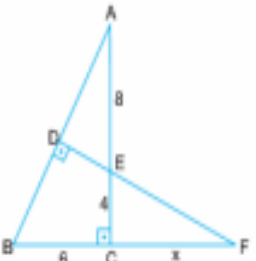
- 2)  EDC üçgeninde
 $|EC|^2 = 5^2 + 12^2$
(Pisagor)
 $|EC| = 13$ ($5 - 12 - 13$)

$$\widehat{ABC} \sim \widehat{EDC} \Rightarrow \frac{12}{x+13} = \frac{5}{10}$$

Benzer üçgenlerde eşit olan açıların karşısındaki kenarların oranı birbirine eşittir.

$$x = 11 \text{ cm}$$

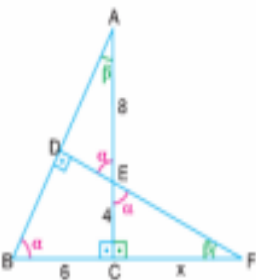
Doğru Cevap: C şıkkı

- 3)  ABC ve BDF
dik üçgenler
 $[AC] \perp [BF]$
 $[DF] \perp [AB]$
 $|AE| = 8$ cm
 $|BC| = 6$ cm
 $|EC| = 4$ cm

Yukandaki verilene göre, $|CF| = x$ kaç cm dir?

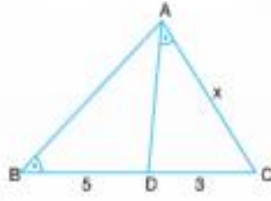
- A) 4 B) 6 C) 8 D) 10 E) 12

ÇÖZÜM:

- 3)  $\widehat{ABC} \sim \widehat{FEC}$
 $\Rightarrow \frac{|BC|}{|EC|} = \frac{|AC|}{|FC|}$
 $\Rightarrow \frac{6}{4} = \frac{12}{x}$
 $\Rightarrow x = 8$ cm olur.

Doğru Cevap: C şıkkı

4)



ABC bir üçgen

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

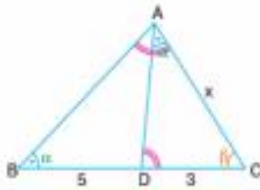
$$|BD| = 5 \text{ cm} , |DC| = 3 \text{ cm}$$

Yukandaki verilene göre, $|AC| = x$ kaç cm dir?

- A) $2\sqrt{3}$ B) 4 C) $2\sqrt{5}$ D) $2\sqrt{6}$ E) 5

ÇÖZÜM:

4)



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

ve C açısı ortak ise,

$$m(\widehat{ADC}) = m(\widehat{BAC})$$

olur.

Buna göre, A. A. A Benzerlik Teoreminden,

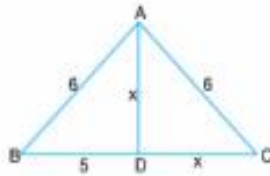
$$\widehat{ABC} \sim \widehat{DAC} \Rightarrow \frac{x}{8} = \frac{3}{x}$$

$$\Rightarrow x^2 = 24$$

$$\Rightarrow x = 2\sqrt{6} \text{ cm olur.}$$

Cevap D

5)



ABC bir üçgen

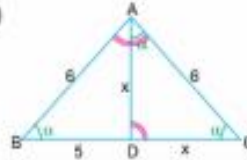
$$|AD| = |DC| = x , |AB| = |AC| = 6 \text{ cm}$$

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

Yukandaki verilene göre, x kaç cm dir?

ÇÖZÜM:

5)



$|AD| = |DC|$ ise,

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

$|AB| = |AC|$ ise,

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

olur.

Buna göre, $m(\widehat{ADC}) = m(\widehat{BAC})$ dir.

O halde, A. A. A. Benzerlik Teoreminden,

$$\widehat{ABC} \sim \widehat{DAC} \Rightarrow \frac{6}{x+5} = \frac{x}{6}$$

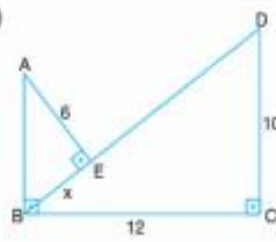
$$\Rightarrow x^2 + 5x = 36$$

$$\Rightarrow x^2 + 5x - 36 = 0$$

$$\Rightarrow x = 4 \text{ cm olur.}$$

Doğru Cevap: A şıkkı

6)



BDC dik üçgen

$$|AB| \perp |BC|$$

$$|AE| \perp |BD|$$

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

$$|DC| = 10 \text{ cm}$$

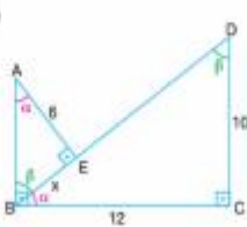
$$|AE| = 6 \text{ cm}$$

Yukandaki verilene göre, $|BE| = x$ kaç cm dir?

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

ÇÖZÜM:

6)



$$\widehat{ABE} \sim \widehat{BDC}$$

$$\Rightarrow \frac{x}{10} = \frac{6}{12}$$

$$\Rightarrow x = 5 \text{ cm}$$