Deneme Sınavı
Trial Exam

10

ÇÖZÜMLER

TAMAMI VİDEO ÇÖZÜMLÜ

VİDEO ÇÖZÜM UYGULAMASI İÇİN

ÇÖZÜMLER

1. abc ■ → (a + c)b

abc ● → (a.c)b

(624 ●) ■ → 242 ■ = 44

Cevap: B

2. $(2 + 3 + 4)^2 = 81$

$(1 + 2 + 3)^2 = 36$

$(0 + 2 + 3)^2 = ? = 25$

Cevap: D

3. ○ = 2k □ = 3k △ = 7k

⇒ △ = 7k = ○○□

Cevap: A

4. ○ = 4 ⊕ = 5 △ = 6 ⊞ = 7 ⟁ = 8 □ = 9

⇒ ○△□ = 469

Cevap: B

5. ◒ = 2 ◭ = 3 ◓ = 4 ◑ = 6 ▲ = 7 ◨ = 8

⇒ ◭◑◒◨ = 3628

Cevap: A

6. 6r 360

24r ? → ters orantı

$\cancel{6r}.360 = ?.\cancel{24r} \Rightarrow 90° = ?$

Ortadaki 90° saat yönünde tersi

6r 360

36r ? → $\cancel{6r}.\frac{360}{60} = ?.\frac{\cancel{36r}}{6} \Rightarrow 60° = ?$

Büyük olan 60° saat yönü döner.

Cevap: B

7. $\left|\frac{11.\text{dakika} - 60\ \text{saat}}{2}\right|$ Formülü ile bulunur.

$\left|\frac{11.13 - 60.7}{2}\right| = \left|\frac{143 - 420}{2}\right| = 138,5$

Cevap: B

8. $2a = 8 \Rightarrow a = 4\ ,\ b = 4$

$\frac{3}{8 \oplus 4} = \frac{4}{2} - 4:4 \Rightarrow \frac{3}{8 \oplus 4} = 2 - 1 \Rightarrow \frac{3}{8 \oplus 4} = 1$

$\Rightarrow 8 \oplus 4 = 3$

Cevap: B

9. L = Π , P = ∅ , T = ⊠

Cevap: C

10. $\left.\begin{array}{l}\frac{1}{a} + \frac{1}{b} = \frac{1}{2} \\ \frac{1}{a} - \frac{1}{b} = \frac{1}{6}\end{array}\right\} \Rightarrow \frac{2}{a} = \frac{4}{6} \Rightarrow 4a = 12 \Rightarrow a = 3 \Rightarrow b = 6$

$\Rightarrow \frac{1}{2} \square \frac{1}{6} = 3.6 = 18$

Cevap: D

11. $3.d = 18 \Rightarrow d = 6$

$c^d = 1 \Rightarrow c^6 = 1 \Rightarrow c = 1$

$b - c = 4 \Rightarrow b - 1 = 4 \Rightarrow b = 5$

$\frac{b + c}{d} = \frac{5 + 1}{6} = 1$

Cevap: C

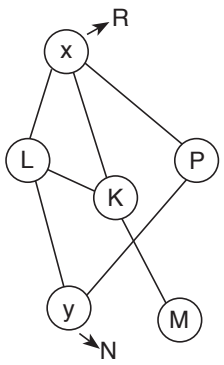
Diğer Sayfaya Geçiniz.

12. 4, 5, 10, 6, 7, 14, 10, 11, 22, 18, 19, 38, ?

+1 x2 −4 +1 x2 −4 +1 x2 −4 +1 x2 −4

Cevap: A

13.



Cevap: D

14. $2^1 - 1 = 1$, $2^2 - 2 = 2$, $2^3 - 3 = 5$

$2^4 - 4 = 12$, $2^5 - 5 = 27$, $2^6 - 6 = 58$

$\Rightarrow 2^7 - 7 = 128 - 7 = 121$

Cevap: C

15. I. $5.2 + 4 - 7 = 7$

II. $7.2 + 4 - 5 = 13$

III. $4.2 + 5 - 7 = 6$

$\Rightarrow$ IV. $8.2 + 6 - 2 = 16 + 6 - 2 = 20$

Cevap: D

16. I. $3^2 + \sqrt{49} = 9 + 7 = 16$

II. $2^2 + \sqrt{25} = 4 + 5 = 9$

III. $2^2 + \sqrt{36} = 4 + 6 = 10$

IV. $3^2 + \sqrt{100} = 9 + 10 = 19$

Cevap: A

17. I. $(10 + 8):2 = 9$

II. $(7 + 3):2 = 5$

III. $(8 + 6):2 = 7$

IV. $(11 + 1):2 = 6$

Cevap: D

18. $20 + 5 - 1 = 24$

$10 + 3 - 2 = 11$

$8 + 6 - 2 = 12$

$12 + 4 - 3 = 13$

Cevap: C

19. $\left.\begin{array}{l} a + b = 3k - 1 \\ b + a = 2k + 5 \end{array}\right\} \Rightarrow 3k - 1 = 2k + 5 \Rightarrow k = 6$

$\Rightarrow c + c = 4k + 2 \Rightarrow 2c = 4k + 2 \Rightarrow 2c = 26 \Rightarrow c = 13$

Cevap: E

20. $a^2 = 5k$, $c^2 = 20k \Rightarrow a^2.c^2 = 100k^2 \Rightarrow a.c = 10k$

$\Rightarrow a.c = \frac{k^2}{2} = 10k \Rightarrow k^2 = 20k \Rightarrow k = 20$

$\Rightarrow b^2 = 2k + 9 = 49 \Rightarrow b = 7$

Cevap: D

21. $a + a = k + 1 \Rightarrow 2a = k + 1 \Rightarrow a = \frac{k+1}{2}$

$b + b = 4k + 2 \Rightarrow 2b = 4k + 2 \Rightarrow b = 2k + 1$

$\Rightarrow a.b = 7k + 11 = \frac{k+1}{2}\cdot(2k + 1)$

$\Rightarrow 7k + 11 = \frac{2k^2 + 3k + 1}{2} \Rightarrow 2k^2 + 3k + 1 = 14k + 22$

$\Rightarrow 2k^2 - 11k - 21 = 0 \Rightarrow (2k + 3)(k - 7) = 0$

$\Rightarrow k = -\frac{3}{2}$, $k = 7$

$\Rightarrow k = 7$

Cevap: B

22. $d = 2$, $c - d = 5 \Rightarrow c = 7$

$a^2 + c = 43 \Rightarrow a^2 = 36 \quad a = 6$

$d = 2$, $b^2 + d = 3 \Rightarrow b = 1$

$T = a - b = 6 - 1 = 5$

Cevap: A

23. $a - b = 1$, $c - d = 1 \Rightarrow b = a - 1$, $d = c - 1$

$a^2 + c = 32 \Rightarrow c = 32 - a^2$

$b^2 + d = (a - 1)^2 + c - 1 = 24c = 25 - (a - 1)^2$

$\Rightarrow 32 - a^2 = 25 - (a - 1)^2 \Rightarrow 32 - a^2 = 25 - a^2 + 2a - 1$

$\Rightarrow 32 - 25 + 1 = -a^2 + 2a + a^2 \Rightarrow 8 = 2a \quad a = 4$

Cevap: B

24. $a = m + 8 \Rightarrow m + 8 - b = m + 1 \Rightarrow b = 7$

$c = k + 1 \Rightarrow k + 1 - d = k - 5 \Rightarrow k = 6$

$\Rightarrow T = b^2 + d = 49 + 6 = 55$

Cevap: C

25. $\underbrace{(\star \triangle \heartsuit)}_{\heartsuit} \triangle \underbrace{(\otimes \triangle \#)}_{\triangle} \triangle [\underbrace{(\odot \triangle \heartsuit)}_{\#} \triangle \underbrace{(\star \triangle \star)}_{\star = \odot}] = ?$

Cevap: B

26.

Cevap: A

27. $7 + 8 + 6 + 9 = 30$

$360° \times 30$, $\alpha \times 7$, $\alpha = 84$

$360° \times 30$, $\beta \times 8$, $\beta = 96$

$360° \times 30$, $\theta \times 6$, $\theta = 72$

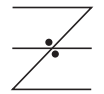
$360° \times 30$, $\Upsilon \times 9$, $\Upsilon = 108$

Cevap: E

28. A, B, C, E

şıklarında var.

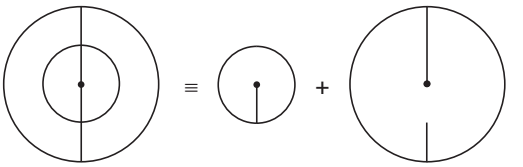
D şıkkında



var.

Cevap: D

29.

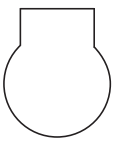


Cevap: E

30.

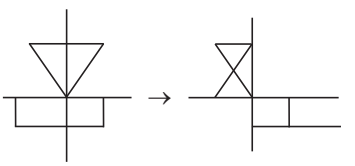
Cevap: B

31.



Cevap: B

32.



Cevap: C

Diğer Sayfaya Geçiniz.

33. $32 + \textcircled{8} = 40$

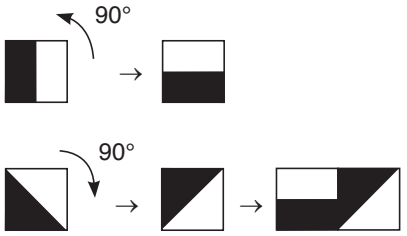
$\frac{40}{\textcircled{5}} = 8$

$(8 + \textcircled{1})2 = 81$ şeklinde sağdan sola gidiyor.

A = 8 B = 35 C = 20

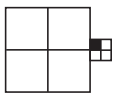
Cevap: B

34.



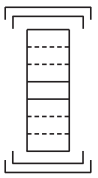
Cevap: D

35.



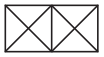
Cevap: B

36.



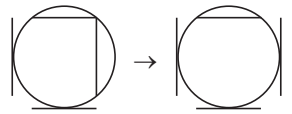
Cevap: D

37.



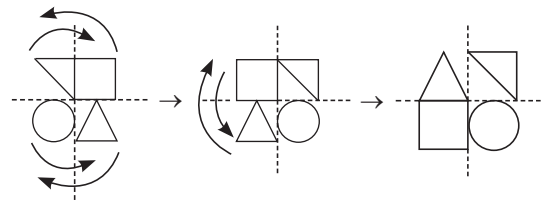
Cevap: E

38.



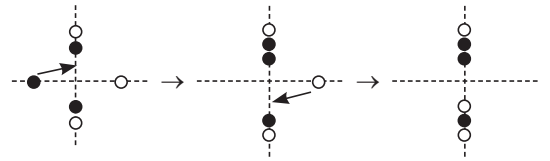
Cevap: C

39.



Cevap: C

40.



Cevap: A

41. $534 \rightarrow (5 - 4) + 3 = 4$

$362 \rightarrow (3 - 2) + 6 = 7$

$792 \rightarrow (7 - 2) + 9 = 14$

$235 \rightarrow (3 - 2) + 5 = 6$

$493 \rightarrow (9 - 4) + 3 = 8$

$335 \rightarrow (3 - 3) + 5 = 5$

$14 - 5 = 9$ olur.

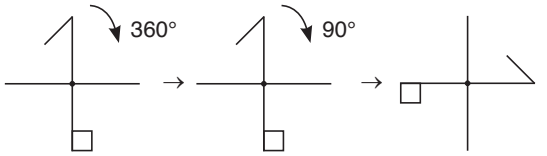
Cevap: C

42. $A + B + C = 21$, $A + C = 17 \Rightarrow B = 4$

$$\begin{array}{r} ABC \\ +\ CBA \\ \hline 1797 \end{array}$$

Cevap: B

43.



Cevap: A

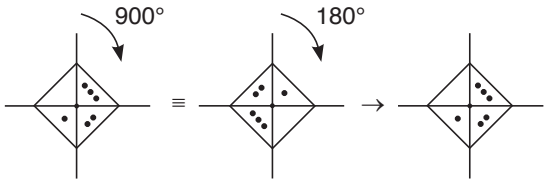
44.

KART	YAKA	AYIK	AYAK	KIRK
2134	6121	1652	1612	2532

Cevap C seçeneğidir.

Cevap: C

45.



Cevap: D

46. $\frac{7^{-46}(1 + 2.7 + 7^2)}{7^{-46}(1 - 7 + 7^2)} = \frac{64}{43}$

Cevap: C

47. $2^{x+1} = 2^x.2 = 3 \Rightarrow 2^x = \frac{3}{2}$

$\Rightarrow 4^{x-1} = \frac{4^x}{4} = \frac{(2^x)^2}{4} = \frac{\frac{9}{4}}{4} = \frac{9}{16}$

Cevap: B

48. $x^6 - 1 = (x^3 + 1)(x^3 - 1)$

$\frac{x^6 - 1}{x^3 + 1} = \frac{(x^3 + 1)(x^3 - 1)}{x^3 + 1} = x^3 - 1 = \frac{19}{8}$

$\Rightarrow x^3 = \frac{19}{8} + 1$

$\Rightarrow x^3 = \frac{27}{8} \Rightarrow x = \frac{3}{2}$

Cevap: D

49. $2^5 = 32 = a$

$\Rightarrow \frac{(2^5)^2 + 32 + 1}{(2^5)^3 - 1} = \frac{a^2 + a + 1}{a^3 - 1}$

$= \frac{a^2 + a + 1}{(a - 1)(a^2 + a + 1)} = \frac{1}{a - 1} = \frac{1}{31}$

Cevap: E

50. $(\sqrt{5} - 2)^{18}.(\sqrt{5} - 2)^{18}.(\sqrt{5} - 2)^1$

$(\sqrt{5} - 2)^1.(\sqrt{5} - 2)^{18}.(\sqrt{5} + 2)^{18}$

$\Rightarrow (\sqrt{5} - 2)[(\sqrt{5} - 2).(\sqrt{5} + 2)]^{18} = (\sqrt{5} - 2).1$

$\Rightarrow \sqrt{5} - 2 + \sqrt{5} + 2 = 2\sqrt{5}$

Cevap: D

51. $x_1 + x_2 = 4 \quad x_1.x_2 = 2$

$x_1^2 + 2x_1.x_2 + x_2^2 = 16 \Rightarrow x_1^2 + 4 + x_2^2 = 16$

$\Rightarrow x_1^2 + x_2^2 = 12$

Cevap: A

52. $x^2 - 5x + 1 = 2 \Rightarrow x^2 - 5x - 1 = 0$

$x_1 + x_2 = 5 \quad x_1.x_2 = -1$

$\Rightarrow \frac{1}{x_1} + \frac{1}{x_2} = \frac{x_1 + x_2}{x_1.x_2} = \frac{5}{-1} = -5$

Cevap: B

Diğer Sayfaya Geçiniz.

53. $\dfrac{6}{-1+\dfrac{8}{x-2}} = 2 \Rightarrow -1+\dfrac{8}{x-2} = 3 \Rightarrow \dfrac{8}{x-2} = 4$

$\Rightarrow x-2 = 2 \Rightarrow x = 4$

Cevap: A

54. $\dfrac{a-1}{2} = k \Rightarrow a = 2k+1$

$\dfrac{b+1}{3} = k \Rightarrow b = 3k-1$

$\dfrac{c-2}{4} = k \Rightarrow c = 4k+2$

$a+b+c = 9k+2 = 8 \Rightarrow k = \dfrac{6}{9} = \dfrac{2}{3}$

$\Rightarrow a = 2.\dfrac{2}{3}+1 = \dfrac{4}{3}+1 = \dfrac{7}{3}$

Cevap: E

55. $x^2+x+y^2-y = -\dfrac{1}{2}$

$\Rightarrow x^2+x+y^2-y+\dfrac{1}{2} = 0$

$\Rightarrow x^2+x+\dfrac{1}{4}+y^2-y+\dfrac{1}{4} = 0$

$\Rightarrow \left(x+\dfrac{1}{2}\right)^2+\left(y-\dfrac{1}{2}\right)^2 = 0 \Rightarrow x = -\dfrac{1}{2}\ ,\ y = \dfrac{1}{2}$

$\Rightarrow x-y = -\dfrac{1}{2}-\dfrac{1}{2} = \dfrac{-2}{2} = -1$

Cevap: C

56. $f^{-1}(k) = 7 \Rightarrow f(7) = k \Rightarrow 2x+3 = 7 \Rightarrow 2x = 4$

$\Rightarrow x = 2 \Rightarrow f(7) = 3.2+2 = 8$

Cevap: C

57. $x = 3 \Rightarrow g(4) = 3.3-1 = 9$

$x = 11 \Rightarrow f(8) = 2.11+1 = 23$

$\Rightarrow (fog)(4) = f(g(4)) = 23$

Cevap: E

58. $f(x) = 3x+4\ ,\ f(g(x)) = 3.g(x)+4 = 4x+4$

$\Rightarrow 3.g(x) = 4x \Rightarrow g(x) = \dfrac{4x}{3} \Rightarrow g(1) = \dfrac{4}{3}$

Cevap: D

59. $\lim\limits_{x\to 1}\dfrac{\sqrt{x+3}-2}{\sqrt{x}-1} = \dfrac{0}{0} \Rightarrow L$

$\lim\limits_{x\to 1}\dfrac{\sqrt{x+3}-2}{\sqrt{x}-1} = \lim\limits_{x\to 1}\dfrac{(\sqrt{x+3}-2)'}{(\sqrt{x}-1)'}$

$= \lim\limits_{x\to 1}\dfrac{\dfrac{1}{2\sqrt{x+3}}}{\dfrac{1}{2\sqrt{x}}} = \lim\limits_{x\to 1}\dfrac{\sqrt{x}}{\sqrt{x+3}} = \dfrac{1}{2}$

Cevap: C

60. $\lim\limits_{x\to 1} f(x) = \lim\limits_{x\to 1^+} f(x) = \lim\limits_{x\to 1^-} f(x) = 10$

$\lim\limits_{x\to 1^+} f(x) = 1^2+1+a = 10 \Rightarrow a = 8$

$\lim\limits_{x\to 1^-} f(x) = 3.1+c = 10 \Rightarrow c = 7$

$f(3) = 3^2+3+a = 9+3+8 = 20$

$f(0) = 3.0+c = 0+7 = 7$

$\Rightarrow f(3)+f(0) = 27$

Cevap: E

61. $\lim\limits_{x\to 0}\dfrac{\sin ax}{bx} = \dfrac{a}{b}$

$\lim\limits_{x\to 0}\dfrac{\sin^3 2x}{x^3} = \lim\limits_{x\to 0}\left(\dfrac{\sin 2x}{x}\right)^3 = 2^3 = 8$

Cevap: B

62. $\cos 40° = 1-2\sin^2 20$

$\Rightarrow m = 1-2\sin^2 20 \Rightarrow 2\sin^2 20 = 1-m$

$\Rightarrow 2\sin^2 20 = \dfrac{1-m}{2}$

$\Rightarrow \sin 20° = \sqrt{\dfrac{1-m}{2}}$

Cevap: A

63. $\log_2 2^{-3} + \log_3^{-1} 3^{-2} = -3 + 2 = -1$

Cevap: E

64. $2^{\log_4^3} = 3^{\log_4^2} = 3^{\frac{1}{2}} = \sqrt{3}$

$5^{\log_{25}^3} = 3^{\log_{25}^5} = 3^{\frac{1}{2}} = \sqrt{3}$

$3^{\log_2^{\sqrt{2}}} = 3^{\frac{1}{2}} = \sqrt{3}$

$\Rightarrow \sqrt{3} + \sqrt{3} + \sqrt{3} = 3\sqrt{3}$

Cevap: E

65. $z^2 = 9 - 24i + 16i^2 = 9 - 24i - 16 = -7 - 24i$

$|z| = \sqrt{3^2 + (-4)^2} = \sqrt{25} = 5$

$\Rightarrow z^2 + z + |z| = -7 - 24i + 3 - 4i + 5 = 1 - 28i$

Cevap: C

66. $z = \dfrac{8 - 6i - 3 + 4i}{7 + 24i} = \dfrac{5 - 2i}{7 + 24i}$

$\Rightarrow |z| = \dfrac{\sqrt{25 + 4}}{\sqrt{49 + 576}} = \dfrac{\sqrt{29}}{\sqrt{625}} = \dfrac{\sqrt{29}}{25}$

Cevap: E

67. $f'(x) = \dfrac{2.(x + 1) - 1.(2x + 1)}{(x + 1)^2}$

$\Rightarrow f'(1) = \dfrac{2.2 - 1.3}{2^2} = \dfrac{1}{4}$

Cevap: D

68. $f'(x) = 2e^{\sin x}.\cos x$

$\Rightarrow f'\left(\dfrac{\pi}{6}\right) = 2.e^{\frac{1}{2}}.\dfrac{\sqrt{3}}{2} = \sqrt{e}.\sqrt{3} = \sqrt{3e}$

Cevap: B

69.

	1.vagon	2.vagon	3.vagon
	x	y	z
1.	x–7	y+7	z
2.	x–7	y–6	z+13
	$\frac{90}{3} = 30$	$x-7 = 30 \Rightarrow x = 37$	
		$y-6 = 30 \Rightarrow x = 36$	

Cevap: E

70. x tane gül olsun. Toplam maliyet A TL olursa 3 TL den tanesini satarsam 3x olur. 2 TL den satarsam 2x olur.

$$3x = \not{A} + 90$$
$$+\ -/2x = \not{A} - 42 \quad \text{olur.}$$
$$x = 132$$

Cevap: B

71. Her kamyon x sefer yapsın.

3 tonluk kamyon toplamda 3x taşır.

5 tonluk kamyon toplamda 5x taşır.

7 tonluk kamyon toplamda 7x taşır.

Toplam 15x taşınır. $15x = 315$ ise $x = 21$ olur.

Cevap: E

72. x kişi olsun grupta yaşlar toplamı 312 ise 2 önceki yaşları toplamı her kişi 2 yaş gençleşeceği için 2x azalır.

$312 - 2x$ olur. Ortalamasını bulmak için kişi sayısına bölmeliyiz.

$\dfrac{312 - 2x}{x} = 11 \Rightarrow x = 24$

Cevap: A

Diğer Sayfaya Geçiniz.

73.

Küçük	Büyük	
6	x	→ geçmiş
x–6 ↓	y–x ↓	→ geçen yıl eşit olmalı
x	y	→ şimdiki zaman

$x - 6 = y - x \Rightarrow 2x - y = 6$

$+ \quad x + y = 30$

$3x = 36 \Rightarrow x = 12$

Küçük 12 yaşındaysa Büyük 18 olur.

Cevap: C

74. Pantolon fiyatı → 200x ise

Gömlek fiyatı → 100x ise

Pantolon %20 kâr ile satılırsa

$200x + \frac{\cancel{200}x.20}{\cancel{100}} = 240x$

Gömlek fiyatı %10 zararla satılırsa

$100x + \frac{\cancel{100}x.20}{\cancel{100}} = 90x$

Pantolon + Gömlek = 300x

Yeni durumda Pantolon + Gömlek = 330x

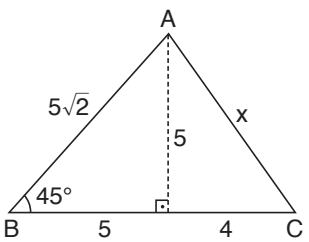
30x kâr

$\frac{\cancel{3800}x.t}{\cancel{100}} = 30x \Rightarrow 3t = 30 \Rightarrow t = 10$

% 10 kâr olur.

Cevap: E

75.

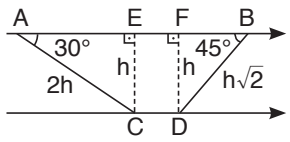


$x^2 = 25 + 16$

$x^2 = 41 \Rightarrow x = \sqrt{41}$

Cevap: A

76.



ICEI ⊥ IABI , IDFI ⊥ IABI

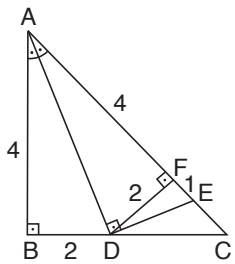
AB // CD ⇒ IECI = IDFI = h

⇒ IACI = 2h , IBDI = $h\sqrt{2}$

$\Rightarrow \frac{|AC|}{|BD|} = \frac{2h}{h\sqrt{2}} = \frac{2}{\sqrt{2}} = \frac{2\sqrt{2}}{2} = \sqrt{2}$

Cevap: B

77.



DF ⊥ AC

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

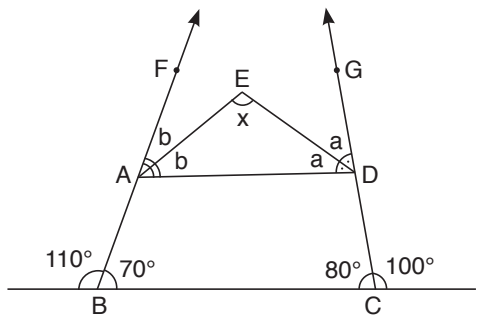
⇒ IBDI = IDFI = 2 , IABI = IAFI = 4

$\Rightarrow |FD|^2 = |AF|.|FE| \Rightarrow 2^2 = 4.|FE|$

⇒ IFEI = 1 ⇒ IAEI = 4 + 1 = 5 cm

Cevap: B

78.



⇒ 110° + 100° + 2a + 2b = 360°

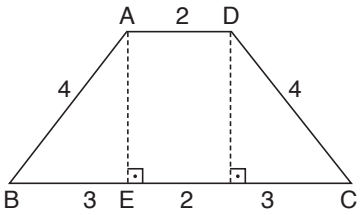
⇒ 2.(a + b) = 150

⇒ a + b = 75 ⇒ a + b + x = 180

⇒ 75 + x = 180 ⇒ x = 105°

Cevap: E

79.



$|DF| \perp |BC|$, $AD \,//\, BC \Rightarrow |EF| = |AD| = 2$ cm

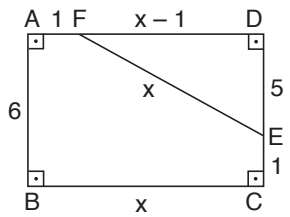
$|AB| = |CD| \Rightarrow |BE| = |FC| = 3$

$\Rightarrow |AE|^2 + 3^2 = 4^2 \Rightarrow |AE|^2 = 16 - 9 = 7$ cm

$\Rightarrow |AE| = \sqrt{7}$

Cevap: D

80.



$|AB| = |DC| = 6 \Rightarrow |DE| = 5$

$|BC| = |AD| = x \Rightarrow |FD| = x - 1$

$\Rightarrow (x-1)^2 + 5^2 = x^2 \Rightarrow x^2 - 2x + 1 + 25 = x^2$

$\Rightarrow 26 = 2x \Rightarrow x = 13$

Cevap: C

Diğer Sayfaya Geçiniz.