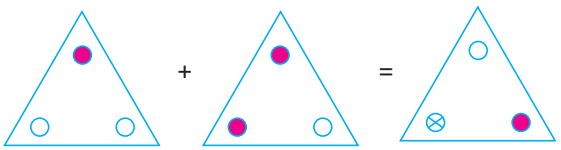
ÇÖZÜMLERİ

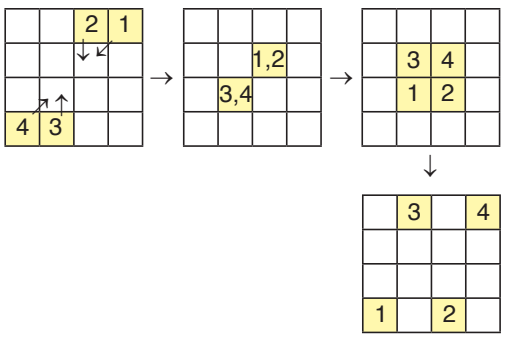
1. ○ + ○ = ● , ○ + ● = ● + ○ = ⊗ ,

● + ● = ○



Cevap: C

2.



Cevap: D

3.

I.	II.	III.	IV.
5	7	4	9
3	6	2	8
16	13	12	**x**

I. $5^2 - 3^2 = 16$

II. $7^2 - 6^2 = 13$

III. $4^2 - 2^2 = 12$

IV. $9^2 - 8^2 = 17$

Cevap: C

4. A = 2 , E = 4 , D = 5 , F = 7 , K = 6 ,

L = 1 , N = 8 , R = 3

⇒ DEKAR = 54623

Cevap: C

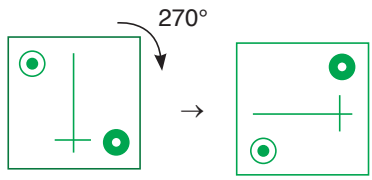
5. △ = 1 , ○ = 2 , □ = 3 , ⬡ = 4 , Φ = 5 , ✶ = 6

★ = 7 , ▲ = 8

⇒ □Φ△○ = 3512

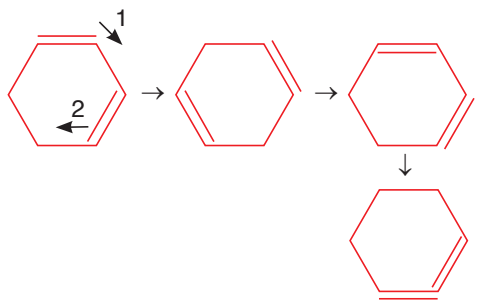
Cevap: C

6.



Cevap: E

7.



Cevap: E

Diğer Sayfaya Geçiniz.

8. $\underbrace{(E \square B)}_{C} \square \underbrace{(A \square C)}_{E} = D$

Cevap: D

9. $A \square \underbrace{(A \square x)}_{A} = C$

$A \square x = A \Rightarrow x = D$

Cevap: D

10. $5 \triangle \underbrace{(-3 \triangle -2)}_{(-3 \le -2)} = 5 \triangle ((-3).(-2) - 3)$

$= 5 \triangle 3 = 5^2 - 2.3.5$

$= 25 - 30 = -5$

Cevap: A

11. $\frac{1}{a^3} = 8 \Rightarrow a = \frac{1}{2}$

$\frac{2b-1}{3} = 3 \Rightarrow b = 5$

$\Rightarrow 8 \oplus 3 = 6.\frac{1}{2}.5 - 5$

$= 10$

Cevap: B

12. $2c = 14 \Rightarrow c = 7$

$\left.\begin{matrix} 2a = b + 1 \\ b + c = 4a \end{matrix}\right\} \Rightarrow \left.\begin{matrix} 2a - b = 1 \\ 4a - b = 7 \end{matrix}\right\} \Rightarrow \begin{matrix} a = 3 \\ b = 5 \end{matrix}$

Cevap: A

13. $a.c = c^2 + c \Rightarrow a = c + 1$

$\frac{\not{b}.c}{a.\not{b}} = \frac{a+3}{2c+2} \Rightarrow \frac{c}{c+1} = \frac{c+4}{2c+2}$

$\Rightarrow c = 4$

$\Rightarrow b = 2$

$\Rightarrow a = 5$

$+$

$a + b + c = 11$

Cevap: C

14. $b.c = 6b \Rightarrow c = 6$

$a + b = c + 6 \Rightarrow a + b = 12$

$a + c = b \Rightarrow + \quad b - a = 6$

$2b = 18 \Rightarrow b = 9 , a = 3$

Cevap: C

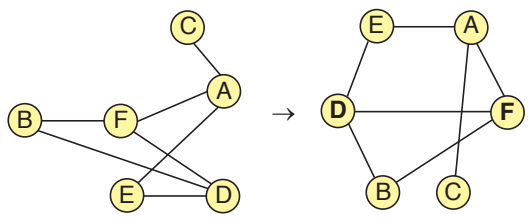
15. $\frac{1^2 + 4^2 + 7^2}{3} = \frac{66}{3} = 22$

$\frac{0^2 + 6^2 + 9^2}{3} = \frac{117}{3} = 39$

$\frac{4^2 + 5^2 + 8^2}{3} = \frac{105}{3} = 35 \Rightarrow x = 35$

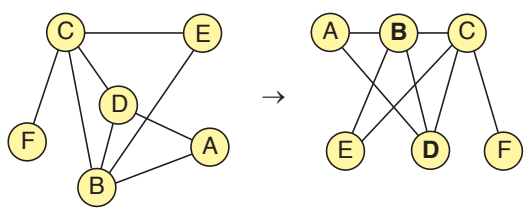
Cevap: C

16.



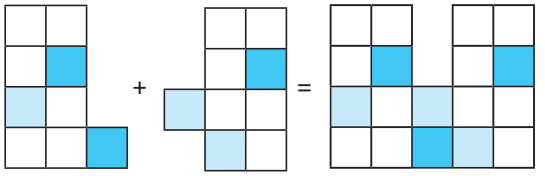
Cevap: B

17.



Cevap: B

18.



Cevap: A

19. I. $\square\triangle\triangle = \bigcirc\bigcirc\bigcirc\square \Rightarrow \triangle\triangle = \bigcirc\bigcirc\bigcirc$

$\Rightarrow \triangle = 3k$

$\bigcirc = 2k$

II. $\square\square\bigcirc = \triangle\triangle\triangle\triangle \Rightarrow \square\square\bigcirc = \triangle\triangle\triangle\triangle$

$2k \quad 12k$

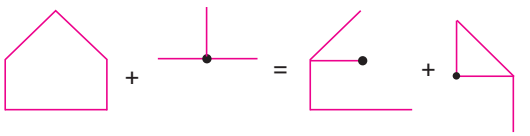
$\Rightarrow \square\square = 10k$

$\Rightarrow \square = 5k$

III. $\triangle\bigcirc = 3k + 2k = 5k = \square$

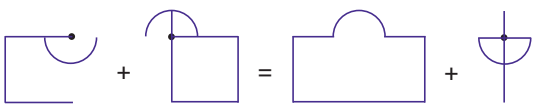
Cevap: A

20.



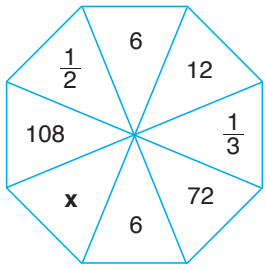
Cevap: E

21.



Cevap: E

22.



$6.6 = 36$

$72.\frac{1}{2} = 36$

$\frac{1}{3}.\ 108 = 36$

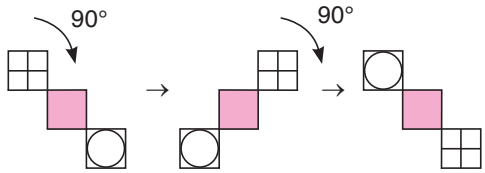
$12.x = 36 \Rightarrow x = 3$

Cevap: D

23. 3. sütunda (At the third column)

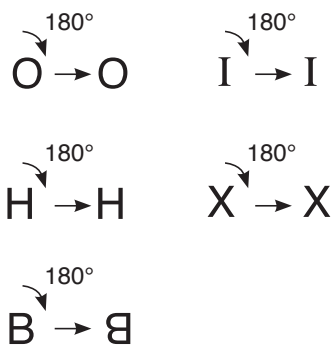
Cevap: B

24. 3. sütunda (At the third column)



Cevap: C

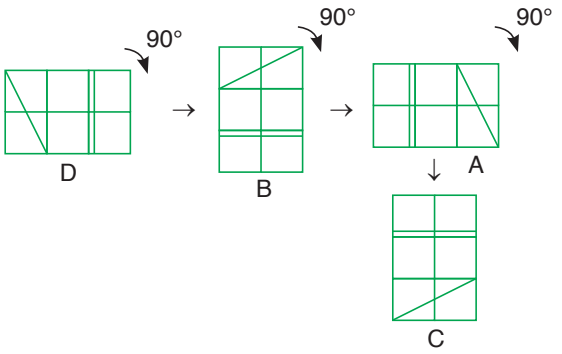
25.



Cevap: B

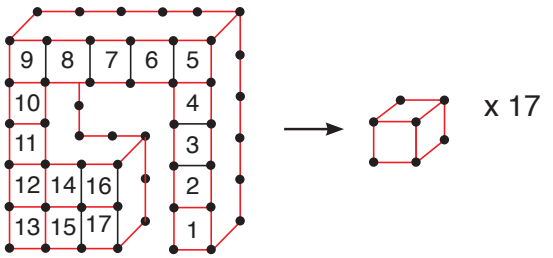
Diğer Sayfaya Geçiniz.

26.



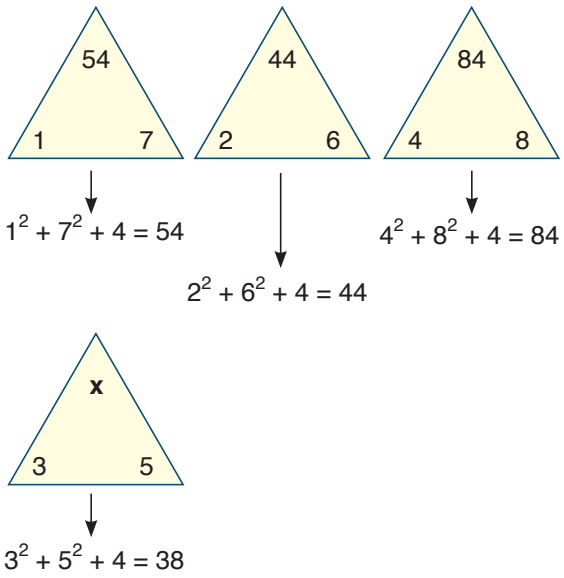
Cevap: E

27.



Cevap: D

28.



Cevap: C

29. $-4,\ \underbrace{3}_{+7},\ \underbrace{13}_{+10},\ \underbrace{26}_{+13},\ \underbrace{42}_{+16},\ \underbrace{x}_{+19}$

Cevap: B

30. $\frac{x-1}{4} + 1 = 60$

$\frac{x-1}{4} = 59 \Rightarrow x - 1 = 236$

$x = 237$

Cevap: B

31. ★ = a, ♥ = b, ▲ = c ve ◆ = d olsun.

$\frac{a}{b} = \frac{3 \cdot 2k}{5 \cdot 2k} = \frac{6k}{10k}$ $\frac{c}{a} = \frac{1 \cdot k}{6 \cdot k}$

a = 6k, b = 10k, c = k olur.

I. teraziden: a + b = c + 3d

6k + 10k = k + 3d ⇒15k = 3d

d = 5k olur.

II. teraziden

3c + 2a + b = ?

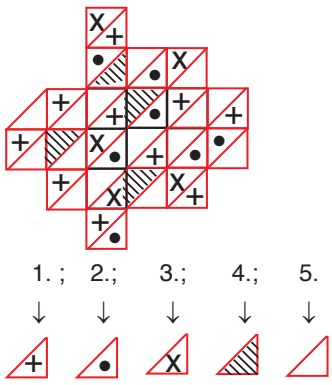
3k + 12k + 10k = ?

25k = ? ⇒5d yapar.

◆◆◆◆◆ olur.

Cevap: D

32.



Cevap: C

33. ◉ adet) . (⊠ adet) + (▨ nokta adet)

Şekildeki toplam kare sayısı

$$\frac{(5\cdot 7+8)}{16}=\frac{35+8}{16}=\frac{43}{16}$$

Cevap: B

34. 5343 ⇒ 4922

(5 + 2).(4 + 3) = 49

(5 . 2) + (4 . 3) = 22

1862 ⇒ 7220

(1 + 8) . (6 + 2) = 72

(1 . 8) + (6 + 2) = 20

4935 ⇒ 10451

(4 + 9).(3 + 5) = 104

(4 . 9) + (3 . 5) = 51

8227 ⇒ 9030

(8 + 2) . (2 + 7) = 90

(8 . 2) + (2 . 7) = 30

6583 ⇒ ?

(6 + 5) . (8 + 3) = 121

(6 . 5) + (8 . 3) = 54

Cevap: C

35. ▲ → Toplamın 2 katı | Toplamın 3 katı

● → Toplamı | Farkı

X ← (4)	8	▲ →	24	36	● →	60	12
Y ← (8)	5		26	39		65	(13) → V
3	4		14	(21) → Z		35	7

X + Y + V – Z = ?

4 + 8 + 13 – 21 = 4

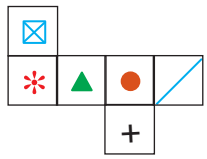
Cevap: B

36. Küpümüzde karşılıklı gelen şekiller

+ → ⊠

● → ✻

▲ → ▨



Cevap: C

37. ■ ⇒ Rakamların toplamının 3 katı

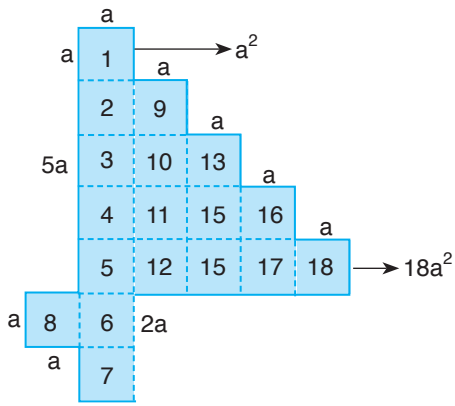
◉ ⇒ Rakamların çarpımı

(■ 118) ⇒ ◉((1 + 1 + 8).3) = ◉(30)

= 3 . 0 = 0

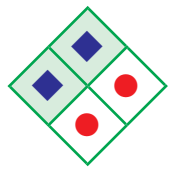
Cevap: A

38.



Cevap: D

39.



Cevap: B

TASARI EĞİTİM YAYINLARI

Diğer Sayfaya Geçiniz.

40. Şeklimiz katlandığında B seçeneği oluşur.

Cevap: B

41. $\left[\frac{3}{4}:\left(\frac{1}{2}\cdot\frac{5}{3}\right)\right]:\frac{5}{6}$

$=\left[\frac{3}{4}:\frac{5}{6}\right]:\frac{5}{6}=\left[\frac{3}{4}\cdot\frac{6}{5}\right]:\frac{5}{6}$

$=\frac{9}{10}\cdot\frac{6}{5}=\frac{27}{25}$

Cevap: B

42. $\frac{12}{5^{-3}+4.5^{-3}+4.5^{-2}+14.5^{-1}}$

$=\frac{12}{\frac{5^{-2}+4.5^{-2}}{5^{-1}}+14.5^{-1}}$

$=\frac{12}{5^{-1}+14.5^{-1}}=\frac{12}{15.5^{-1}}$

$=\frac{12}{3}=4$

Cevap: D

43. $\frac{0,15}{0,25}\cdot\frac{0,9}{0,2}:\frac{2,4}{8}$

$=\frac{15}{25}\cdot\frac{9}{2}\cdot\frac{80}{24}=\frac{\overset{1}{\cancel{3}}}{\underset{1}{\cancel{5}}}\cdot\frac{9}{2}\cdot\frac{\overset{2}{\cancel{10}}}{\underset{1}{\cancel{3}}}$

$=9$

Cevap: A

44. $\frac{2}{\sqrt{2}-1}+\frac{2}{\sqrt{2}-2}-\frac{1}{\sqrt{2}}$

$=\frac{2}{\sqrt{2}-1}-\frac{2}{\sqrt{2}(\sqrt{2}-1)}-\frac{1}{\sqrt{2}}$

$=\frac{2-\sqrt{2}}{\sqrt{2}-1}-\frac{1}{\sqrt{2}}=\frac{\sqrt{2}(\sqrt{2}-1)}{(\sqrt{2}-1)}-\frac{1}{\sqrt{2}}$

$=\sqrt{2}-\frac{1}{\sqrt{2}}=\frac{1}{\sqrt{2}}=\frac{\sqrt{2}}{2}$

Cevap: A

45. $\left(\sqrt{\frac{5}{18}}\right)^{-1}+5.\left(\sqrt{\frac{5}{2}}\right)^{-3}=\frac{\sqrt{18}}{\sqrt{5}}+5.\left(\frac{\sqrt{2}}{\sqrt{5}}\right)^{3}$

$=\frac{3\sqrt{2}}{\sqrt{5}}+\cancel{5}.\frac{2\sqrt{2}}{\cancel{5}\sqrt{5}}$

$=\frac{5\sqrt{2}}{\sqrt{5}}=\sqrt{10}$

Cevap: C

46. $|x-3|+|3x-5|=12$

$|x-3|+3|x-3|=12\Rightarrow 4|x-3|=12$

$\Rightarrow |x-3|=3$

$x-3=3 \quad x-3=-3$

$x=6 \quad x=0\,,\ x>0\Rightarrow x=6$

Cevap: E

47. $\frac{36}{8-\frac{4}{3-\frac{x}{2}}}=3\Rightarrow 8-\frac{4}{3-\frac{x}{2}}=12$

$\Rightarrow -\frac{4}{3-\frac{x}{2}}=+4$

$\Rightarrow 3-\frac{x}{2}=-1$

$\Rightarrow \frac{x}{2}=4 \quad \Rightarrow x=8$

Cevap: D

48. $\frac{(x-y)(x+y)-(x-y)}{(x-y)} - x + y$

$= \frac{\cancel{(x-y)}(x+y-1)}{\cancel{(x-y)}} - x + y$

$= x + y - 1 - x + y = 2y - 1$

Cevap: C

49. $\frac{x-A}{x+3} + \frac{x-B}{x-4} = \frac{2x^2-4x-16}{x^2-x-12}$

$(x-4) \quad (x+3)$

$\frac{x^2-Ax-4x+4A+x^2-Bx+3x-3B}{x^2-x-12}$

$= \frac{2x^2-4x-16}{x^2-x-12}$

$2x^2-(A+B+1)x+4A-3B = 2x^2-4x-16$

$\Rightarrow A+B=3 \quad , \quad 4A-3B=-16$

$+ \quad -4A-4B=-12$

$-7B=-28$

$B=4$

Cevap: B

50. • $x^2+x+1=0$

$x^2=-x-1$

• $x^3-x=x(x^2-1)$

$=x(-x-1-1)$

$=x(-x-2)$

$=-x^2-2x$

$=-(-x-1)-2x$

$=x+1-2x$

$=1-x$

Cevap: B

51. $f(40)=f(10.4)=\frac{f(10)}{4}=30$

$\Rightarrow f(10)=120$

$f(50)=\frac{f(10)}{5}=\frac{120}{5}=24$

Cevap: B

52. $x=\frac{1}{2} \Rightarrow f(1)+2.f(-1)=2$

$x=-\frac{1}{2} \Rightarrow f(-1)+2.f(1)=4$

$-2f(-1)-4f(1)=-8$

$+ \quad f(1)+2.f(-1)=2$

$-3.f(1)=-6$

$f(1)=2$

Cevap: D

53. $\frac{8^4-6^4}{16^2-9^2} = \frac{(8^2-6^2)(8^2+6^2)}{(16-9)(16+9)}$

$= \frac{(64-36)(64+36)}{7\cdot 25}$

$= \frac{\overset{4}{\cancel{28}}\cdot\overset{4}{\cancel{100}}}{\cancel{7}\cdot\cancel{25}}$

$= 16$ bulunur.

Cevap: D

54. $\frac{(6!-5!)(5!+4!)}{(4!)^2}$

$= \frac{\cancel{4!}(6\cdot 5-5)\cdot\cancel{4!}(5+1)}{\cancel{(4!)^2}}$

$= (30-5)(6)$

$= 26 \,.\, 6 = 150$ bulunur.

Cevap: C

Diğer Sayfaya Geçiniz.

55.
- $a \cdot b^4 < 0 \Rightarrow b^4 > 0$ ise $a < 0$
- $a - b > 0 \Rightarrow a > b$ ve $a < 0, b < 0$ ve $b < a$
- $a \cdot b \cdot c > 0 \Rightarrow c > 0$

$\downarrow \ \downarrow \ \downarrow$

$- \ - \ +$

O halde

$b < a < c$ bulunur.

Cevap: C

56.
$$\begin{array}{r} K\,K\,K\,7 \\ 5\,L\,L \\ +\quad M\,3 \\ \hline 5\,1\,0\,6 \end{array}$$

L = 6, K = 4, M = 9 olur.

$$\begin{array}{r} 4\,4\,4\,7 \\ 5\,6\,6 \\ +\quad 9\,3 \\ \hline 5\,1\,0\,6 \end{array}$$

O halde $K \cdot L \cdot M = 4 \cdot 6 \cdot 9 = 216$

Cevap: E

57.
$$\begin{array}{rl} & a \cdot b = 10 \\ + & b \cdot c = 6 \\ \hline & \end{array}$$

$b(a + c) = 16 \Rightarrow a + c = \frac{16}{b}$

$b - a - c = 0$

$b - (a + c) = 0$

$b - \frac{16}{b} = 0$

$b^2 - 16 = 0 \Rightarrow b^2 = 16$

$b = \pm 4 \ b \in R^+$

- $a \cdot 4 = 10 \Rightarrow a = \frac{5}{2}$

$4 \cdot c = 6 \Rightarrow c = \frac{3}{2}$

O halde

$a \cdot b \cdot c = \frac{5}{2} \cdot 4 \cdot \frac{3}{2} = 15$ bulunur.

Cevap: A

58.
$$\frac{b^2 - c^2}{a^2 - b^2} = \frac{(b-c)(b+c)}{(a-c)(a+b)}$$

$$\begin{array}{rl} & a + b = 19 \\ + & -/a + c = 12 \\ \hline & b - c = 7 \end{array} \qquad \begin{array}{rl} & -/b + c = 16 \\ + & a + c = 12 \\ \hline & a - b = -4 \end{array}$$

O halde

$\frac{7 \cdot \overset{4}{\cancel{16}}}{-\cancel{4} \cdot 19} = -\frac{28}{19}$ bulunur.

Cevap: E

59. $a < 0 < b$

I. $|a - b| = -(a - b) \qquad |a| = -a$

$-(a - b) - a = 10 \Rightarrow -a + b - a = 10$

$b - 2a = 10$

II. $|b - a| = b - a \qquad |b| = b$

$b - a + b = 8 \Rightarrow 2b - a = 8$

I ve II'den

$$\begin{array}{rl} & -2/\ b - 2a = 10 \\ & 2b - a = 8 \\ \hline & -2b + 4a = -20 \\ + & 2b - a = 8 \\ \hline & 3a = -12 \Rightarrow a = -4 \text{ ve } b = 2 \text{ olur.} \end{array}$$

Cevap: A

60. $a \cdot b \cdot c > 0$

$a \cdot b \underbrace{-8|a|}_{+} \Rightarrow a \cdot b$ sonucu negatiftir.

$\underbrace{a \cdot b}_{-} \cdot \underbrace{c}_{-} > 0 \Rightarrow$ ifadesinden $c < 0$

o halde

$\frac{b}{c} = \underbrace{2|b|}_{+} \Rightarrow b < 0$ ve $a > 0$ olur.

$a \cdot b = -8a \Rightarrow b = -8$

$\frac{b}{c} = 2.|b| \Rightarrow c = -\frac{1}{2}$

$a + b + c = 0$

$a - 8 - \frac{1}{2} = 0 \Rightarrow a = \frac{17}{2}$ bulunur.

Cevap: D

61. $(\sqrt{a} - \sqrt{b}) = (6\sqrt{2})^2$

I. $a + b - 2\sqrt{a \cdot b} = 72$

II. $a + b + 4\sqrt{a \cdot b} = 28$

$a + b + 2\sqrt{a \cdot b} = 28$

I ve II'den

$a + b - 2\sqrt{a \cdot b} = 72$

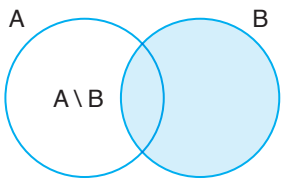
$+ \quad a + b + 2\sqrt{a \cdot b} = 28$

$2(a + b) = 100$

$a + b = 50$

Cevap: E

62.



$s(B) = 7.s(A \setminus B)$

$s(A \setminus B) = x$ olsun. $s(B) = 7x$ olacaktır.

$s(A \cup B) = 5.(A \setminus B) + 48$

$s(A \cup B) = 5x + 48$

$s(A \cup B) = s(B) + s(A \setminus B)$

$5x + 48 = 7x + x$

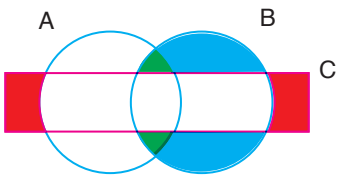
$48 = 3x$

$16 = x$

O halde $s(B) = 7 \cdot 16 = 112$ bulunur.

Cevap: D

63.



$C \setminus (A \cup B) \rightarrow$ ●

$B \setminus (A \cup C) \rightarrow$ ●

$(A \cap B) \setminus C \rightarrow$ ●

Cevap: C

64. $f(x) = x^2 + x + m$

$f(x_1) = f(x_2) = 0$

$x_1 = 3x_2$ ise

$x_1 + x_2 = -1$

$3x_2 + x_2 = -1$

$4x_2 = -1 \Rightarrow x_2 = -\frac{1}{4}$

$f\left(-\frac{1}{4}\right) = \left(-\frac{1}{4}\right)^2 + \left(-\frac{1}{4}\right) + m = 0$

$\frac{1}{16} - \underset{(4)}{\frac{1}{4}} + m = 0$

$-\frac{3}{16} + m = 0 \Rightarrow m = \frac{3}{16}$ olur.

Cevap: C

65. $x = -3$ için

$P(x - 2) = (x + 3) \cdot B(x) + K$

$P(-5) = K$

$x = -2$ için

$P(2x - 1) = x^3 + 3x^2 + 5x + 2$

$P(2.(-2)-1) = (-2)^3 + 3.(-2)^2 + 5.(-2) + 2 = K$

$-= + 12 - 10 + 2 = K$

$-4 = K$ bulunur.

Cevap: A

66.

$x = 4$ için

$f(6) = 4f(5) - 3f(4)$

$x = 3$ için

$f(5) = 4f(4) - 3f(3)$

$x = 2$ için

$f(4) = 4f(3) - 3f(2)$

$x = 1$ için

$f(3) = 4f(2) - 3f(1)$

$x = 0$ için

$+ \quad f(2) = 4f(1) - 3f(0)$

$f(6) + f(5) + \cancel{f(4)} + \cancel{f(3)} + \cancel{f(2)}$

$= 4f(5) + \cancel{f(4)} + \cancel{f(3)} + \cancel{f(2)} + f(1) - 3f(0)$

$\underbrace{f(6) - f(1)} = 3f(5) - 3f(0)$

$48 = 3(f(5) - f(0))$

$16 = f(5) - f(0)$ bulunur.

Cevap: D

Diğer Sayfaya Geçiniz.

67. $3.f(x-2) - \frac{12}{f(x+2)} = g(x)$

$x = 2$ için

$3f(0) - \frac{12}{f(4)} = g(2)$ grafiğe göre $f(0) = 4$ ve $f(4) = 6$

$12 - \frac{12}{6} = g(2) \Rightarrow g(2) = 10$

$f(0) = 4 \Rightarrow f^{-1}(4) = 0$

O halde $g(2) + f^{-1}(4) = 10 + 0 = 10$ bulunur.

Cevap: B

68. $\frac{a}{7} = \frac{b}{5} = \frac{c}{12} = k$

$a = 7k$, $b = 5k$ $c = 12k$

$$\frac{\sqrt{7a} + \sqrt{5b}}{2\sqrt{12c}} = \frac{7\sqrt{k} + 5\sqrt{k}}{24\sqrt{k}}$$

$$= \frac{12\sqrt{k}}{24\sqrt{k}} = \frac{1}{2} \text{ olur.}$$

Cevap: A

69.

$$\frac{A \;\big|\; 32}{x^2 \;\big|\; x}$$

$A = 32 \cdot x + x^2$

$x^2 < 32$

max(A) için $x = 5$ alınabilir.

O halde

$\max(A) = 32 \cdot 5 + 5^2$

$= 160 + 25$

$= 185$ bulunur.

Cevap: D

70. $7^x = 2^y$

I. $7^{\frac{x}{x}} = 2^{\frac{y}{x}} \Rightarrow 2^{\frac{y}{x}=7}$

II. $7^{\frac{x}{y}} = 2^{\frac{y}{y}} \Rightarrow 72$

O halde

$$2^{\frac{2\cdot y}{x}} + 7^{5\cdot\frac{x}{y}} = \left(2^{\frac{y}{x}}\right)^2 + \left(4^{\frac{x}{y}}\right)^5$$

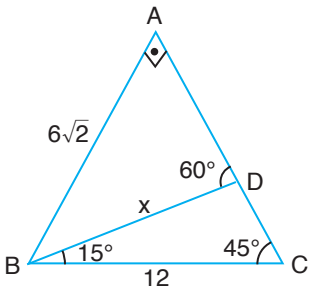
$= (7)^2 + (2)^5$

$= 49 + 32$

$= 81$ bulunur.

Cevap: C

71.

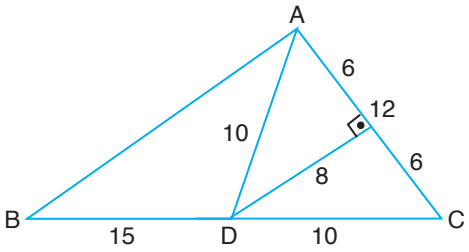


$x = \frac{6\sqrt{2}}{\sqrt{3}} \cdot 2 \quad (30° - 60° - 90°)$

$x = 4\sqrt{6}$

Cevap: E

72.



$A(ADC) = \frac{12 \cdot 8}{2} = 48$

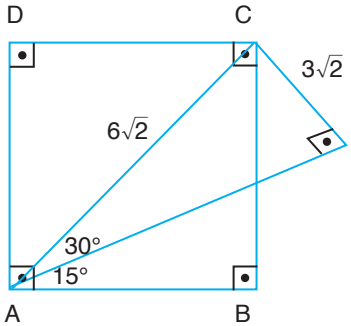
$\frac{A(ABD)}{15} = \frac{A(ADC)}{10} \Rightarrow \frac{A(ABD)}{15} = \frac{48}{10}$

$\Rightarrow A'ABD) = 72$

$\Rightarrow A(ABC) = 72 + 48 = 120 \text{ br}^2$

Cevap: B

73.

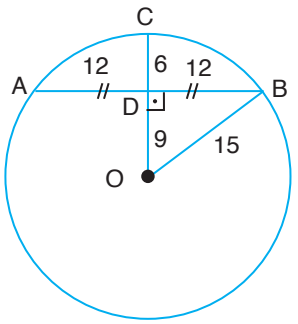


$|AC| = 6\sqrt{2}$ ise $|AD| = 6$

Ç(ABCD) $= 4 \cdot 6 = 24$

Cevap: A

74.



$9^2 + |DB|^2 = |OB|^2$

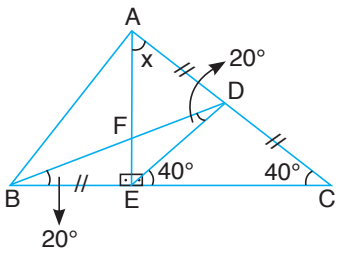
$9^2 + |DB|^2 = 15^2$

$|DB| = 12$

$\Rightarrow |AB| = 24$

Cevap: B

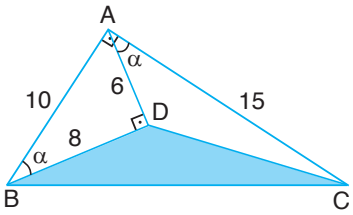
75.



$x = 50$

Cevap: A

76.



$A(ABC) = \frac{10.15}{2} = 75\ br^2$

$A(ABD) = \frac{6.8}{2} = 24\ br^2$

$A(ADC) = \frac{1}{2}\cdot 6\cdot 15\cdot \sin\alpha = 27\ br^2$

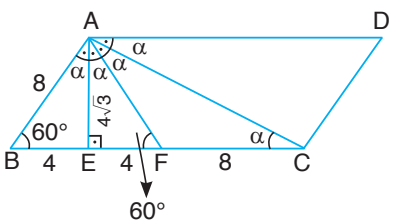
$A(BDC) = A(ABC) - [A(ABD) + A(ADC)]$

$= 75 - [24 + 27]$

$= 24\ br^2$

Cevap: D

77.



$3\alpha = 90°$

$\alpha = 30°$

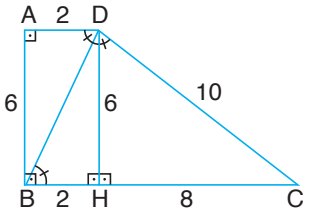
$A(ABDC) = (4\sqrt{3}).16$

$= 64\sqrt{3}\ cm^2$

Cevap: B

Diğer Sayfaya Geçiniz.

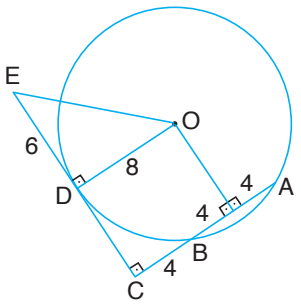
78.



$|AB| = 6$ cm

Cevap: B

79.



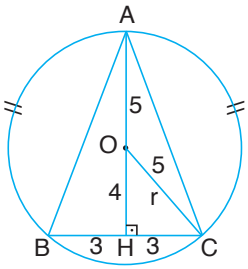
$|OE|^2 = 6^2 + 8^2$

$|OE|^2 = 100$

$|OE| = 10$ cm

Cevap: A

80.



$|OC|^2 = |HC|^2 + |OH|^2$

$25 = 9 + |OH|^2$

$\Rightarrow |OH| = 4$ br

$|AB|^2 = |BH|^2 + |AH|^2$

$|AB|^2 = 9 + 81$

$|AB|^2 = 90 \Rightarrow |AB| = 3\sqrt{10}$

Cevap: D