ÇÖZÜMLERİ

1. △ = 2k □ = 5k ○ = 6k

⇒ ○ = 2k + 2k + 2k = △△△

Cevap: B

2. 3.8 + 1 = 25

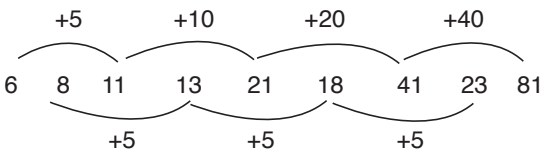
8.4 + 1 = 33

4.6 + 1 = 25

6.7 + 1 = K ⇒ K = 43

Cevap: B

3.



Cevap: C

4. $a - 3b = -3 \Rightarrow a = 3b - 3$

$a + b = 7 \Rightarrow a = 7 - b = 3b - 3 \Rightarrow 4b = 10 \Rightarrow b = \frac{5}{2}$

$\Rightarrow a + \frac{5}{2} = 7 \Rightarrow a = 7 - \frac{5}{2} = \frac{9}{2}$

$\Rightarrow (-3) \triangle (7) = \left(\frac{9}{2}\right)^2 - \left(\frac{5}{2}\right)^2 = \frac{81}{4} - \frac{25}{4} = \frac{56}{4} = 14$

Cevap: A

5. $\left(\frac{1}{a+b}\right) \odot (a-b)$

$\frac{1}{a+b} = \frac{2}{3} \Rightarrow a+b = \frac{3}{2}$

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

$\Rightarrow 2a = \frac{8}{2} \Rightarrow a = 2$

$\Rightarrow 4 + b = \frac{3}{2} \Rightarrow b = -\frac{5}{2}$

$\Rightarrow \frac{2}{3} \odot \frac{5}{2} = 2.2 + 3.\left(-\frac{5}{2}\right) = 4 - \frac{15}{2} = -\frac{7}{2}$

Cevap: D

6. ▲ → 1. Sütundaki sayıların karesi

● → 1. Sütundaki sayıların 3 katı

■ → 1. Sütundaki sayıların karesi ile çarpımı

O halde

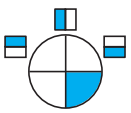
	▲	●	■	
2	4	12	C	C = 8
3	A	18	27	A = 9
4	36	B	64	B = 24

A + B + C = 9 + 24 + 8

= 41 bulunur.

Cevap: A

7.



Ok yönünde dönerlerse cevap E olur.

Cevap: E

8. $\frac{\cancel{5}.\frac{3}{\cancel{5}}.\cancel{4}.\cancel{3}.\cancel{3}.1.\overset{3}{\cancel{6}}.\frac{1}{\cancel{2}}.\frac{1}{\cancel{9}}}{\cancel{4}} = 3.3 = 9$

Cevap: B

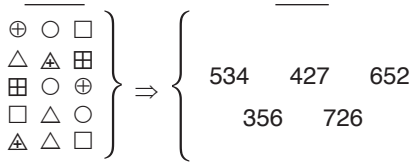
9. △ = 1 ● = 2 ○ = 3 ■ = 4 □ = 5 ▲ = 6

⇒ ▲●■ = 624

Cevap: A

Diğer Sayfaya Geçiniz.

10.



○ = 2 ⟁ = 3 ⊞ = 4 △ = 5 □ = 6 ⊕ = 7

⇒ ⊕△⊞ = 754

Cevap: C

11.

9	5	6	7	8
6	9	8	5	7
8	7	5	6	9
7	6	9	8	5
5	8	7	9	6

Cevap: B

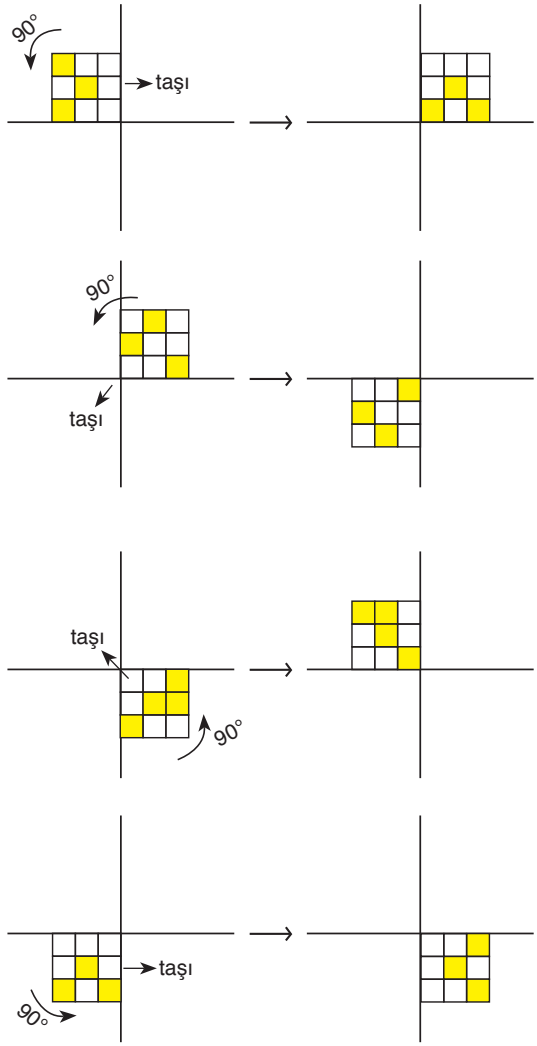
12. $a + b = 2a - b \Rightarrow a = 2b$

$a + b = 2b + b = 5b - 12 \Rightarrow 2b = 12 \quad b = 6$

$c + c = b + 4 \Rightarrow 2c = 10 \Rightarrow c = 5$

Cevap: C

13.



Cevap: E

14. $2a = n + 5 \Rightarrow a = \frac{n+5}{2}$, $2b = 2n + 2 \Rightarrow b = n + 1$

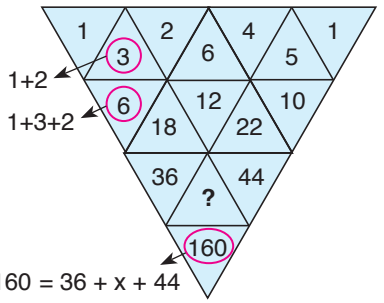
$\Rightarrow a.b = \frac{n+5}{2}(n + 1) = 6n + 16$

$\Rightarrow n^2 + 6n + 5 = 12n + 32$

$\Rightarrow n^2 - 6n - 27 = 0 \Rightarrow (n - 9)(n + 3) = 0 \Rightarrow n = 9$

Cevap: A

15.



$160 = 36 + x + 44$

$160 - 80 = x$

$80 = x$

Cevap: D

16. Açık ve koyu alt alta gelecek şekilde olmalı.

Açığın altına koyu.

Cevap: D

17.

$\frac{x}{y} = \frac{1}{2} \Rightarrow y = 2x$

$\frac{x+y}{2} = 15 \Rightarrow x + y = 30$

$\Rightarrow 3x = 30$

$\Rightarrow x = 10\ ,\ y = 20$

$A = x.y = 200$

Cevap: D

18. $x.y = x^3 \Rightarrow y = x^2$

$z - y = x \Rightarrow z = x^2 + x$

$\frac{x}{y} = \frac{1}{3} \Rightarrow x = 3\ ,\ y = 9\ ,\ z = 12$

$\frac{z}{t} = \frac{1}{3} \Rightarrow t = 36$

$A = x - t = -33$

$B = \frac{x+y}{2} = 6$

$+$

-27

Cevap: A

19.

1	3	5	40
2	4	6	61
1	2	3	**x**

$1^2 + 3^2 + 5^2 + 5 = 40$

$2^2 + 4^2 + 6^2 + 5 = 61$

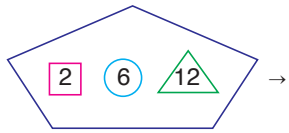
$1^2 + 2^2 + 3^2 + 5 = 19$

Cevap: B

20. $\frac{x-7}{6} + 1 = 50 \Rightarrow x = 301$

Cevap: A

21.

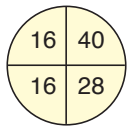


$\left(4.2 + 6 + \frac{12}{3}\right)^2 = 182$

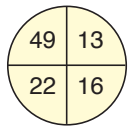
$= 324$

Cevap: E

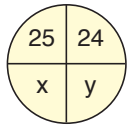
22.



$16 + 16 + 40 + 28 = 100$



$49 + 22 + 13 + 16 = 100$



$25 + x + 24 + y = 100$

$\Rightarrow x + y = 51$

Cevap: B

Diğer Sayfaya Geçiniz.

23.

1	**5**	3	4	**2**
2	1	**5**	**3**	4
4	**2**	1	**5**	3
3	**4**	2	**1**	**x = 5**
5	**3**	**y = 4**	2	**1**

x + y = 9

Cevap: E

24. I. ➡ 912 = (9 – (1 + 2))(9 – (1 . 2)) = 67

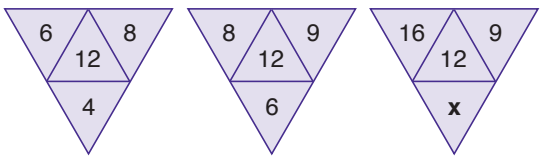
II ➡ 823 = (8 – (2 + 3))(8 – (2 . 3)) = 32

III. ➡ 711 = (7 – (1 + 1))(7 – (1 . 1)) = 56

IV. ➡ 631 = (6 – (3 + 1))(6 – (3 . 1)) = 23

Cevap: C

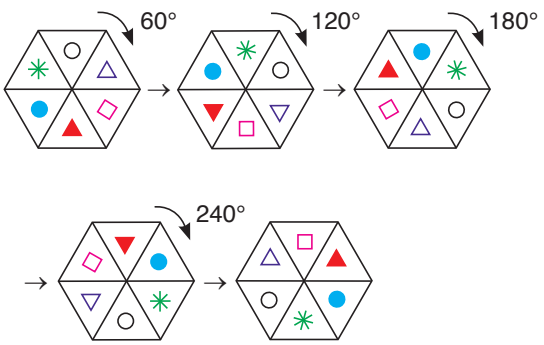
25.



6.8 = 12.4 8.9 = 12.6 16.9 = 12.12

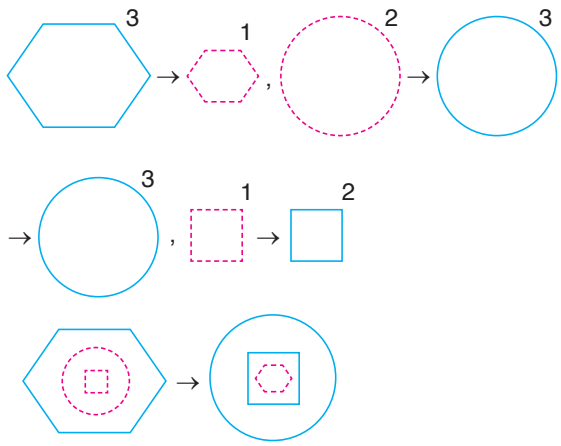
Cevap: C

26.



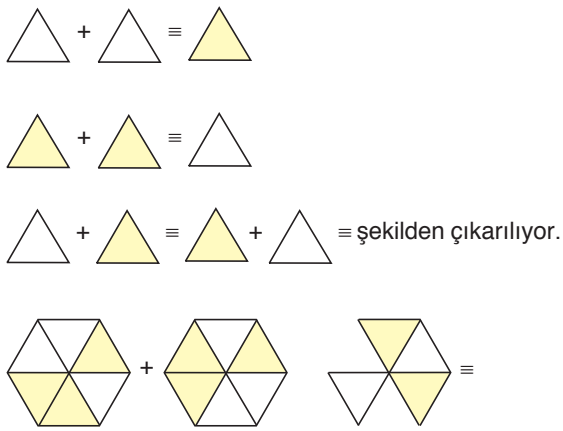
Cevap: D

27.



Cevap: A

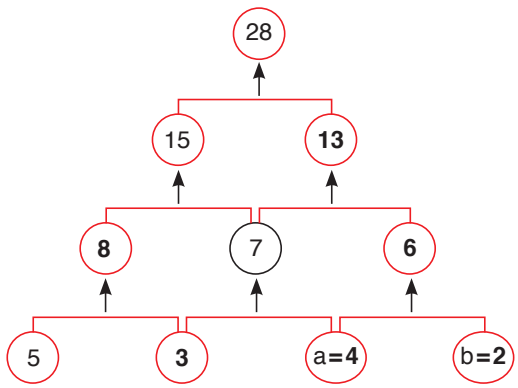
28.



şekilden çıkarılıyor.

Cevap: D

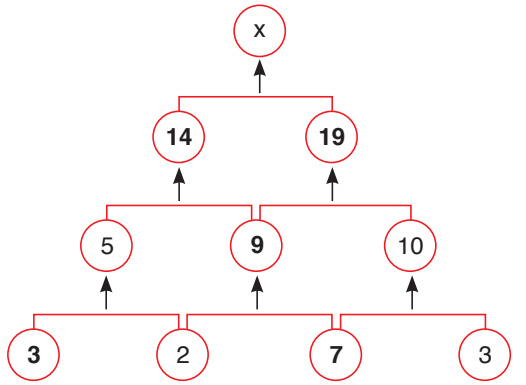
29.



4 – 2 = 2

Cevap: B

30.



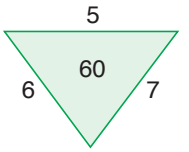
x = 14 + 19 = 33

Cevap: B

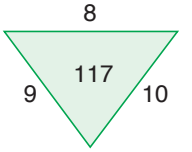
31. Şekildeki küpler sayılınca 56 tane olduğu görülür.

Cevap: B

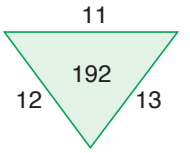
32.



$6^2 + 7^2 - 5^2 = 60$



$9^2 + 10^2 - 8^2 = 117$

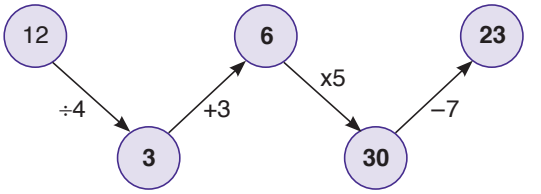


$12^2 + 13^2 - 11^2 = 192$

$\Rightarrow x = 15^2 + 16^2 - 14^2 \Rightarrow x = 285$

Cevap: A

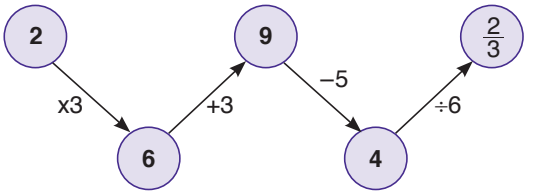
33.



a = 23

Cevap: A

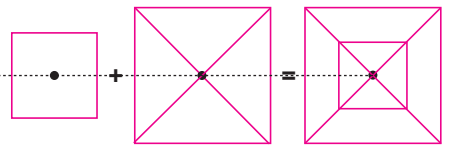
34.

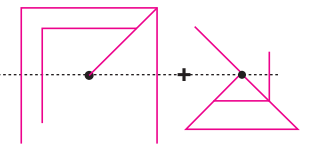


a = 2

Cevap: B

35.

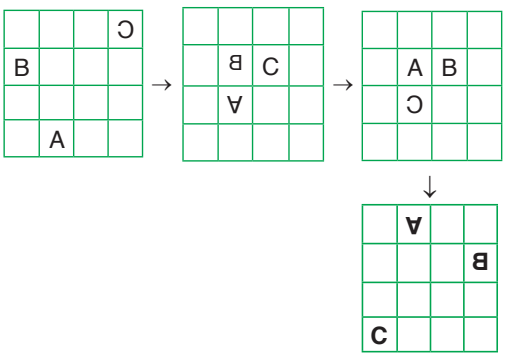




olmalı.

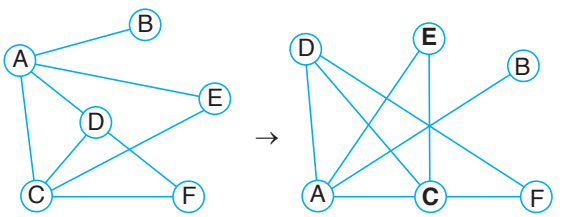
Cevap: D

36.



Cevap: D

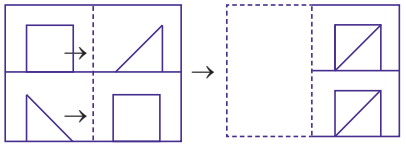
37.



X = E , Y = C

Cevap: E

Diğer Sayfaya Geçiniz.

38. 

Cevap: C

39.

	D	
D	C	C

=

	▽	
▽	□	□

$\Rightarrow D = \triangledown \quad C = \square$

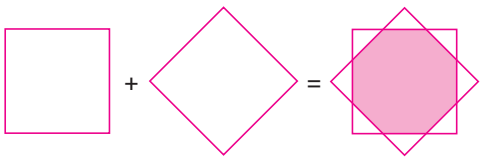
A	A	
B	B	
	C	

=

★	★
♡	♡
	□

A = ★ , B = ♡

Cevap: B

40. 

Cevap: A

41. $\dfrac{10-0,24}{(0,02)^2\cdot(24,4)}$

$= \dfrac{9,76}{(0,0004)\cdot(24,4)}$

$= \dfrac{\frac{976}{100}}{\frac{4}{10^4}\cdot\frac{244}{10}} = \dfrac{\cancel{976}}{10^2}\cdot\dfrac{10^5}{\cancel{976}}$

$= 10^3$

$= 1000$ bulunur.

Cevap: E

42. $A = \dfrac{25B}{100} \qquad A = \dfrac{m.C}{100}$

$m \cdot C = 25B$

$m\cdot\cancel{C} = \cancel{25}\cdot\dfrac{40\cdot\cancel{C}}{\cancel{100}_{4}}$

$m = 10$ bulunur.

Cevap: E

43. $\dfrac{\sqrt{0,16}}{\sqrt{0,04}} - \dfrac{\sqrt{0,48}}{\sqrt{0,03}} = \sqrt{4} - \sqrt{16} = 2 - 4 = -2$

Cevap: A

44. $\sqrt{\left(\frac{4}{3}\right) + \left(\frac{1}{5}\right)^2 - 2\frac{4}{3}\cdot\frac{1}{5}} = \sqrt{\left(\frac{4}{3} - \frac{1}{5}\right)^2}$

$= \left|\frac{4}{3} - \frac{1}{5}\right| = \frac{17}{15}$

Cevap: E

45. $(5^{a-1})^b = \left(\dfrac{5^a}{5}\right)^b = \left(\dfrac{15}{5}\right)^b = 3^b = 7$

Cevap: C

46. $\dfrac{\cancel{2^{1997}}\cdot(2^2-1)}{\cancel{2^{1997}}(2^1-1)} = \dfrac{4-1}{2-1} = 3$

Cevap: A

47. $2/2a + 3b + c = 12$

$-1/3a + 5b + c = 15$

$4a + 6b + 2c = 24$

$+\ -3a - 5b - c = -15$

$a + b + c = 9$

Cevap: B

48. $\sqrt{\dfrac{3+\sqrt{5}}{3-\sqrt{5}}\cdot(3+\sqrt{5})} - \dfrac{\sqrt{5}}{2} = \sqrt{\dfrac{(3+\sqrt{5})^2}{4}} - \dfrac{\sqrt{5}}{2}$

$= \dfrac{3+\sqrt{5}}{2} - \dfrac{\sqrt{5}}{2} = \dfrac{3}{2}$

Cevap: E

49. $\underline{\underline{\dfrac{1}{7}}} - \cancel{\dfrac{1}{8}} + \underline{\underline{\dfrac{6}{7}}} - \dfrac{1}{3} + \cancel{\dfrac{1}{8}} - 1 = \cancel{1} - \dfrac{1}{3} - \cancel{1} = -\dfrac{1}{3}$

Cevap: C

50. $\left(\dfrac{a+2b}{b}\right)\cdot\left(\dfrac{c-d}{d}\right) = \left(\dfrac{a}{b}+2\right)\cdot\left(\dfrac{c}{d}-1\right)$

$= \left(\dfrac{4}{3}+2\right)\cdot\left(\dfrac{4}{3}-1\right)$

$= \dfrac{10}{3}\cdot\dfrac{1}{3} = \dfrac{10}{9}$

Cevap: C

51. $\underline{\underline{xz}} - xy + \underline{\underline{x^2}} - yz = x.(z+x) - y(z+x)$

$= \underbrace{(x-y)}_{3}.\underbrace{(z+x)}_{8} = 24$

$x - \cancel{y} = 3$

$+\ \cancel{y} + z = 5$

$x + z = 8$

Cevap: A

52. $\dfrac{a^2 - 2ab - 3b^2}{a+b} = \dfrac{(a-3b).\cancel{(a+b)}}{\cancel{(a+b)}} = a - 3b$

Cevap: D

53. $2x + \dfrac{1}{y} = 2y + \dfrac{1}{x}$ $\qquad 2x - 2y = \dfrac{1}{x} - \dfrac{1}{y}$

$2.\cancel{(x-y)}^{-1} = \dfrac{\cancel{(y-x)}}{xy}$

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

Cevap: B

54. $f\left(\dfrac{x+2}{x-4}\right) = \dfrac{x-4}{x+2} + 3$

$f\left(\dfrac{1}{41}\right) = 41 + 3 = 44$

Cevap: E

55. $\dfrac{(2006+1).(2006^2 - 2006 + 1)}{(2006^2 - 2005)}\cdot\dfrac{3}{2007}$

$= \dfrac{\cancel{2007}.\cancel{(2006^2 - 2005)}}{\cancel{(2006^2 - 2005)}}\cdot\dfrac{3}{\cancel{2007}} = 3$

Cevap: B

56. $2x^3 + ax^2 + 6x - 3 = (x^2 + 3).B(x)$

$x^2 = -3$

$2x^2.x + ax^2 + 6x - 3 = 0$

$-6x - 3a + 6x - 3 = 0$

$3a = -3 \qquad a = -1$

Cevap: A

Diğer Sayfaya Geçiniz.

57. A = 8 C = 3

$$\begin{array}{r} 88 \\ +\ 33 \\ \hline 121 \end{array} \Rightarrow M + K = 3$$

Cevap: E

58. $\dfrac{(5! - 4!)(8! - 7!)}{(9! - 8!)}$

$= \dfrac{4!(5-1)\cdot 7!(8-1)}{8!\cdot(9-1)}$

$= \dfrac{4!\cdot 4\cdot \cancel{7!}\cdot 7}{\cancel{7!}\cdot 8\cdot 8}$

$= \dfrac{\cancel{4}\cdot 3\cdot \cancel{2}\cdot 1\cdot 4\cdot 7}{\cancel{8}\cdot \cancel{8}} = \dfrac{21}{2}$

Cevap: D

59. a – b = 6 ⇒ b – a = –6 olur.

$$\begin{array}{rr} & ac + b = 38 \\ & bc + a = 8 \\ \hline & ac + b = 38 \\ + & -bc - a = -8 \\ \hline & ac + b - bc - a = 30 \end{array}$$

$c\underbrace{(a-b)}_{6} + \underbrace{(b-a)}_{-6} = 30$

$6c - 6 = 30$

$6c = 36 \Rightarrow c = 6$ bulunur.

Cevap: D

60. A = {x / 3 < x ≤ 120 x = 2n n ∈ N}

A = {4, 6, 8, … 120}

B = {y / 19< y ≤ 150 y = 3k k ∈ N}

B = {21, 24, 27, … 150}

A ∩ B) ⇒ 6m

A ∩ B = {24, 30, 36, … 120}

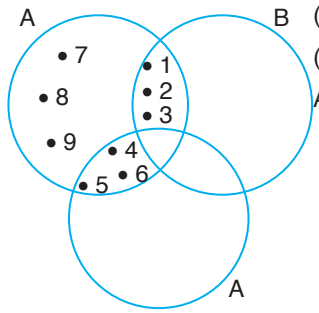
$n(A \cap B) = \dfrac{120 - 24}{6} + 1$

$= 16 + 1$

$= 17$

Cevap: C

61.



(A∩B) \ C = {1, 2, 3}

(A∩C) \ B = {4, 5, 6}

A \ B = {4, 5, 6, 7, 8, 9}

(A \ C) = {1, 2, 3, 7, 8, 9}

n(A \ C) = 6 bulunur.

Cevap: E

62. $f(x) = 2x - 8 \Rightarrow f^{-1}(x) = \dfrac{x+8}{2}$

$(gof^{-1})(x) = g(f^{-1}(x)) = g\left(\dfrac{x+8}{2}\right)$

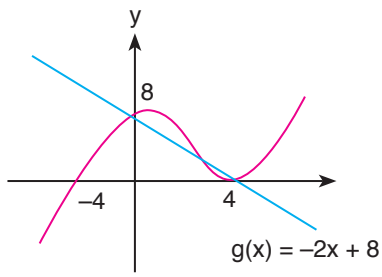
$= \left(\dfrac{x+8}{2} - 4\right)^2$

$= \left(\dfrac{x}{2}\right)^2 = \dfrac{x^2}{4}$

$(go^{-1}(6) = \dfrac{6^2}{4} = \dfrac{36}{4} = 9$ bulunur.

Cevap: E

63.



g(x) = –2x + 8

x = 0 için y = 8

y = 0 için x = 4

$f(x) = a(x+4)(x-4)^2$

x = 0 için f(0) = 8

8 = a . 4 . 16

$\dfrac{1}{8} = a \Rightarrow f(x) = \dfrac{1}{8}(x+4)(x-4)^2$

$f(2) = \dfrac{1}{8}6\cdot 4 = 3$ bulunur.

Cevap: A

64. $P(x) = x^3 - 3x^2 - mx - 8$

$Q(x) = x - 5$

$x - 5 = 0 \Rightarrow x = 5$

$5^3 - 3 \cdot 5^2 - 5m - 8 = 12$

$125 - 75 - 5m - 8 = 12$

$30 = 5m$

$6 = m$ olur.

Cevap: B

65. $P(x) = x^2 + ax + b$

$Q(x) = x \cdot P(x) + 4$

$Q(-1) = 0 \Rightarrow 0 = -P(-1) + 4$

$P(-1) = 4$

$Q(1) = 0 \Rightarrow 0 = P(1) + 4$

$P(1) = -4$

$Q(2) = 0 \Rightarrow 0 = 2 \cdot P(2) + 4$

$2P(2) = -4 \Rightarrow P(2) = -2$

I. $P(-1) = 4 \Rightarrow 1 - a + b = 4$ II. $P(1) = 1+a+b=-4$

$b - a = 3$ $a + b = -5$

I ve II'den

$b - a = 3$

$+ \quad a + b = -5$

$2b = -2 \Rightarrow b = -1$ ve $a = -4$

$P(x) = x^2 - 4x - 1 \Rightarrow P(5) = 25 - 20 - 1$

$= 4$ bulunur.

Cevap: C

66. $\left|\frac{a}{3}\right| = -a \cdot b \quad (-a \cdot b > 0 \Rightarrow -a > a \; a < 0)$

$\left|\frac{a}{3}\right| = -a \cdot b \Rightarrow b = \frac{1}{3}$ olur.

$\frac{|b|}{|a|} = 8b \Rightarrow (5b > 0 \Rightarrow b > 0)$

$\frac{\frac{1}{3}}{|a|} = 8 \cdot \frac{1}{3} \Rightarrow |a| = \frac{1}{3} \cdot \frac{3}{8} = \frac{1}{8}$

$\Rightarrow a = -\frac{1}{8}$

O halde $a + b = \underset{(3)}{-\frac{1}{8}} + \underset{(8)}{\frac{1}{3}} = \frac{5}{24}$ bulunur.

Cevap: B

67. $x^{867} < 0$

$\underbrace{|x|}_{-} + \underbrace{|7-x|}_{+} + \underbrace{|9-x|}_{+} + \underbrace{|x-11|}_{-} = 867$

$-x + 7 - x + 9 - x - x + 1 = 867$

$-4x + 27 = 867$

$-4x = 840$

$x = -210$ bulunur.

Cevap: C

68.

$$\begin{array}{r|l} 1641 & 3 \\ -\,1641 & 547 = ABC \\ \hline 0 & \end{array}$$

D = 6 olmalı.

$$\begin{array}{r} 547 \\ \times\ 36 \\ \hline 3282 \\ +\ 1641 \\ \hline 19692 \end{array}$$

$A + B + C + D = 5 + 4 + 7 + 6$

$= 22$

Cevap: D

69. $16^{x+1} - 20 \cdot 4^x + 4 = 0$

$16^x.16 - 20 \cdot 4^x + 4 = 0$

$16.(4^x)^2 - 20 \cdot 4^x + 4 = 0$

$4^x = a$ olsun.

$16a^2 - 24a + 4 = 0$

$\downarrow \qquad \downarrow$

$4a \qquad -4$

$4a \qquad -1$

$4a - 4 = 0$ ve $4a - 1 = 0$

$4a = 4$ $4a = 1$

$a = \frac{4}{4}$ $a = \frac{1}{4}$

$a = 1$

$4^x = 1 = 4^0$ ve $4^x = \frac{1}{4} = 4^{-1}$

$x = 0$ $x = -1$

$\sum x = 0 - 1 = -1$ bulunur.

Cevap: E

Diğer Sayfaya Geçiniz.

70. $f(x) = x^2 - 4x + 7m - 5$

$x_1 + x_2 = -\frac{b}{a} = \frac{4}{1} = 4$

$-1/\ x_1 + x_2 = 4$

$x_1 + 2x_2 = -4$

$-x_1 - x_2 = -4$

$+\ -x_1 + 2x_1 - x_2 = -4$

$x_2 = -8$ ve $x_1 = 12$

$x_1 . x_2 = \frac{c}{a}$

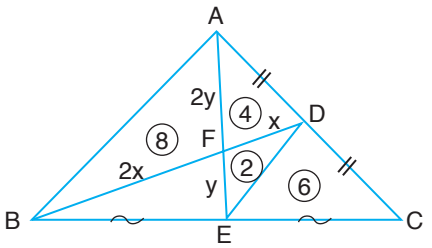
$(-8) . 12 = 7m - 5$

$-96 = 7m - 5$

$-91 = 7m \Rightarrow m = -13$ bulunur.

Cevap: A

71.



[DE] orta tabandır.

$\widehat{DFE} \sim \widehat{BFA}$ ve benzerlik oranı $\frac{1}{2}$'dir.

$2|DF| = |BF|$, $2|.FE| = |AF|$ olur.

$A(ABF) = 8\ br^2 \Rightarrow A(AFD) = 4\ br^2$ olur.

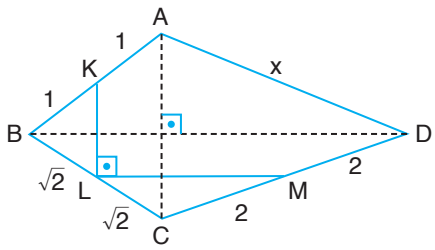
$2|FE| = |AF|$ ve $A(AFD) = 4\ br^2$

$A(DFE) = 2\ br^2$ olur.

$|AD| = |DC| \Rightarrow A(ADE) = A(DEC) = 6\ br^2$ bulunur.

Cevap: C

72.



[LK], ABC üçgenin orta tabanıdır. [LK] // [AC]

[ML], BCD üçgenin orta tabanıdır. [ML] // [BD]

O halde [AC] ⊥ [BD] olur.

$|AD|^2 + |BC|^2 = |AB|^2 + |CD|^2$

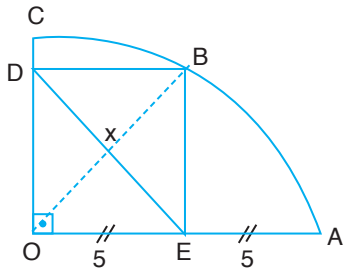
$x^2 + (2\sqrt{2})^2 = 2^2 + 4^2$

$x^2 + 8 = 4 + 16$

$x^2 = 12 \Rightarrow x = 2\sqrt{3}$

Cevap: B

73.



Çemberin yarıçapı $|OA| = 10$ cm

OEBD dikdörtgeninde

[OB] köşegeni çizilir bu da yarıçaptır.

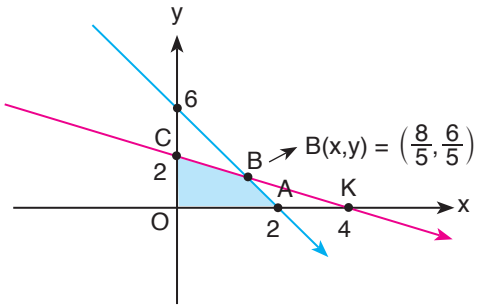
O halde $|OB| = |DE| = x = 10$ cm bulunur.

Cevap: B

74. $y = -3x + 6$ ve $2y = -x + 4$

$x = 0$ için $y = 6$ $y = 2$

$y = 0$ için $x = 2$ $x = 4$



$-2/\ y + 3x = 6$

$2y + x = 4$

$-5x = -8$

$x = \frac{8}{5}$ ve $y = \frac{6}{5}$

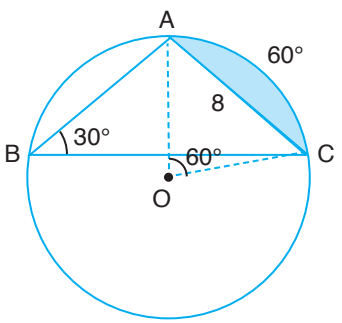
$A(OKC) = \frac{4 \cdot 2}{2} = 4$ br^2 $A(AKB) = \frac{2 \cdot \frac{6}{5}}{2} = \frac{6}{5}$

O halde $A(OABC) = A(OKC) - A(AKB)$

$= 4 - \frac{6}{5} = \frac{14}{5}$ br^2

Cevap: B

75.



$m(\widehat{AC}) = 60°$ olur.

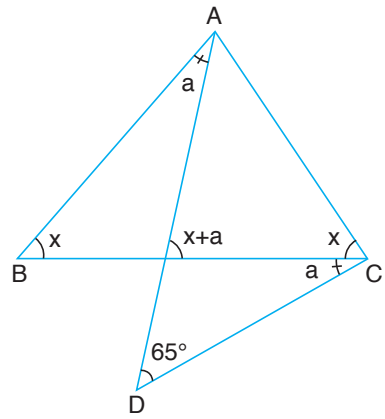
$\widehat{AC}$'nin merkez açısı çizilirse OA üçgeni bir eşkenar üçgen olur.

Taralı Alan $= \frac{\pi \cdot 8^2 \cdot 60°}{360°} - \frac{8^2\sqrt{3}}{4}$

$= \left(\frac{32\pi}{3} - 16\sqrt{3}\right)$ cm^2 bulunur.

Cevap: A

76.



$x + a = 65 + a$

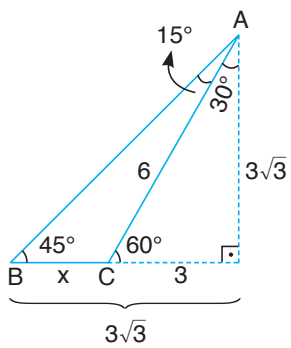
$x = 65$

$65 + 65 = 130$

$180 - 130 = 50$

Cevap: A

77.



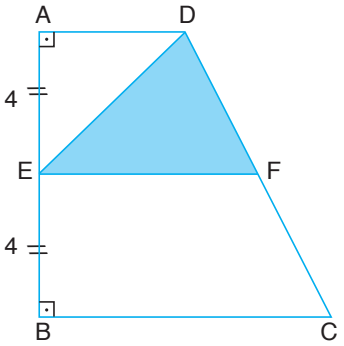
$x = 3\sqrt{3} - 3$

Cevap: B

TASARI EĞİTİM YAYINLARI

Diğer Sayfaya Geçiniz.

78.



$$A(\widehat{DEF}) = \frac{|EF|.4}{2} = 10$$

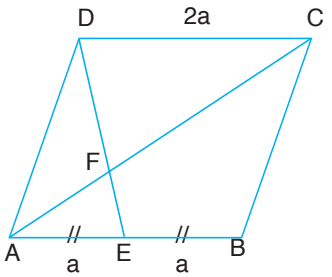
$$|EF| = 5$$

$$|EF| = \frac{|AD| + |BC|}{2}$$

$$|BC| + |AD| = 10$$

Cevap: C

79.

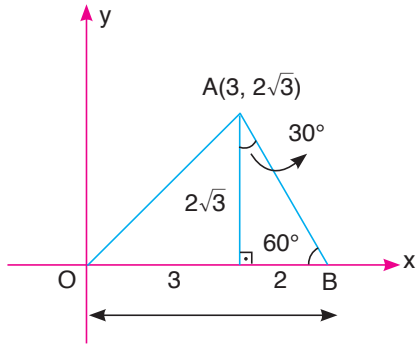


$\widehat{AEF} \sim \widehat{CDF}$

$$\frac{|AE|}{|DC|} = \frac{a}{2a} = \frac{1}{2} = \frac{|AF|}{|FC|}$$

Cevap: C

80.



$$A(\widehat{AOB}) = \frac{5.2\sqrt{3}}{2} = 5\sqrt{3}$$

Cevap: E