

1. ve 2. sorularda, I. gruptaki kümelerin şekilleri birer rakamla gösterilerek II. gruptaki sayılar elde edilmiştir. Soru işaretiyle belirtilen kümenin hangi sayıyla gösterildiğini bulunuz.

In questions 1 and 2, the numbers in group II stand for the sets of figures in group I, when each figure has been coded with a specific numeral. Find the number which corresponds to the set of the figures indicated by the question mark.

1.

I. II.

|         |     |      |      |      |
|---------|-----|------|------|------|
| ○ * △ □ | } { | 1342 | 3425 | 4256 |
| ◇ ○ * * |     | 5613 | 6134 |      |
| * △ □ ◇ |     |      |      |      |
| ◇ ○ * △ |     |      |      |      |
| △ □ ◇ ○ |     |      |      |      |

⇒ \* △ □ ◇ = ?

A) 1342      B) 3425      C) 4256  
D) 5613      E) 6134

2.

I. II.

|         |     |      |      |      |
|---------|-----|------|------|------|
| ● ○ □ △ | } { | 2716 | 3624 | 4237 |
| ○ △ ▲ ■ |     | 6173 | 7341 |      |
| □ ■ ○ ● |     |      |      |      |
| ■ ▲ △ □ |     |      |      |      |
| △ □ ● ▲ |     |      |      |      |

⇒ ■ ▲ △ □ = ?

A) 2716      B) 3624      C) 4237  
D) 6173      E) 7341

3. ve 4. sorularda, I. gruptaki sözcüklerin harfleri birer rakamla gösterilerek II. gruptaki sayılar elde edilmiştir. Soru işaretiyle belirtilen sözcüğün hangi sayıyla gösterildiğini bulunuz.

In questions 3 and 4, the numbers in group II stand for the word in group I, when each letter has been coded with a specific numeral. Find the number which corresponds to the word indicated by the question mark.

3.

|         |     |      |      |      |
|---------|-----|------|------|------|
| L A İ K | } { | 1426 | 2163 | 4531 |
| İ L K E |     | 5314 | 6452 |      |
| T E L A |     |      |      |      |
| K A T İ |     |      |      |      |
| A T E L |     |      |      |      |

⇒ İ L K E = ?

A) 1426      B) 2163      C) 4531  
D) 5314      E) 6452

4.

|         |     |      |      |      |
|---------|-----|------|------|------|
| A M O R | } { | 1426 | 2341 | 3624 |
| K R A T |     | 4563 | 6342 |      |
| T A K O |     |      |      |      |
| R O K A |     |      |      |      |
| O R A K |     |      |      |      |

⇒ T A K O = ?

A) 1426      B) 2341      C) 3624  
D) 4563      E) 6342

5. I.  $\frac{a}{3} \oplus (b + 1) = a \cdot b$

II.  $2 \oplus 3 = ?$

I. eşitlikte  $\oplus$  işaretinin görevi belirlenmiştir. Buna göre, II. eşitlikteki soru işaretinin yerine aşağıdakilerden hangisi gelmelidir?

In the first equation, the function of  $\oplus$  is established.

According to this function, which of the following does the question mark stand for in equation II?

A)  $\frac{3}{2}$  B)  $\frac{2}{3}$  C) 1 D) 6 E) 12

6. I.  $a \otimes b = ab - (a \otimes b) - 1$

II.  $3 \otimes 7 = ?$

I. eşitlikte  $\otimes$  işaretinin görevi belirlenmiştir. Buna göre, II. eşitlikteki soru işaretinin yerine aşağıdakilerden hangisi gelmelidir?

In the first equation, the function of  $\otimes$  is established.

According to this function, which of the following does the question mark stand for in equation II?

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

7. II.  $a * b = \begin{cases} a - 2b, & a < b \\ 3ab, & b \leq a \end{cases}$

II.  $[(-1)*] * (-2) = ?$

I. eşitlikte  $*$  işaretinin görevi belirlenmiştir. Buna göre, II. eşitlikteki soru işaretinin yerine aşağıdakilerden hangisi gelmelidir?

In the first equation, the function of  $*$  is established.

According to this function, which of the following does the question mark stand for in equation II?

A) -3 B) -2 C) 4 D) 6 E) 8

8. I.  $(a,b) \bullet (c,d) = (ad - c, bd - c)$

II.  $(a,b) \square (c,d) = \left( \frac{a-c}{b-d}, \frac{a+c}{b+d} \right)$

III.  $[(8,3) \square (7,2)] \bullet (1,1) = ?$

I. ve II. eşitliklerde  $\bullet$  ve  $\square$  işaretlerinin görevleri belirlenmiştir. Buna göre, III. eşitlikteki soru işaretinin yerine aşağıdakilerden hangisi gelmelidir?

In equations I and II, the functions of  $\bullet$  and  $\square$  are established.

According to these functions, which of the following does the question mark stand for in equation III?

A)  $(-2, -1)$  B)  $(-1, 1)$  C)  $(0, 2)$   
D)  $(1, 1)$  E)  $(1, 2)$

9.

|   |   |    |    |
|---|---|----|----|
| + | a | b  | c  |
| a |   |    |    |
| b | c |    |    |
| c |   | 2a | 12 |

$\Rightarrow a = ?$

Yukarıdaki toplama tablosunda a, b ve c harfleri pozitif birer sayının yerine kullanılmıştır. Buna göre, a kaçtır?

In the addition table above, the letters a, b and c each stand for a positive number. Accordingly what is the value of a?

A) 8 B) 7 C) 6 D) 5 E) 4

10.

|   |    |    |   |
|---|----|----|---|
| x | a  | b  | c |
| a | 8c |    |   |
| b | 18 | 2c |   |
| c |    |    |   |

$$\Rightarrow b = ?$$

Yukarıdaki çarpma tablosunda a, b ve c harfleri pozitif birer sayının yerine kullanılmıştır. Buna göre b kaçtır?

In the multiplication table above, the letters a, b and c each stand for a positive number. Accordingly, what is the value of b?

- A) 3      B) 4      C) 5      D) 6      E) 7

11.

|   |   |     |   |   |   |   |    |
|---|---|-----|---|---|---|---|----|
| x | a | b   | c | + | a | b | c  |
| a |   | 18a |   | a |   | c |    |
| b |   |     |   | b |   |   | 7a |

$$\Rightarrow a = ?$$

Yukarıdaki çarpma ve toplama tablolarında a, b ve c harfleri pozitif birer sayının yerine kullanılmıştır. Buna göre, a kaçtır?

In the multiplication and addition tables above, the letters a, b and c each stand for a positive number. Accordingly, what is the value of a?

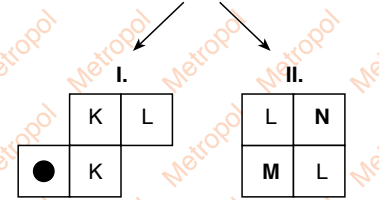
- A) 4      B) 5      C) 6      D) 7      E) 8

12. – 14. sorularda her harf birbirinden farklı bir şekle karşılık gelmektedir.

In questions 12 –14, there is a different symbol to represent each letter.

12.

|   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| ■ | △ | ■ | ⊗ | △ | ■ | ● |
| ● | ◐ | ⊗ | △ | □ | ● | ■ |
| ⊗ | ● | ■ | ● | □ | □ | ⊗ |
| ■ | □ | ⊗ | ■ | ● | ◐ | △ |
| ▲ | ■ | □ | ⊗ | ◐ | ● | ⊗ |
| ● | △ | ⊗ | □ | ■ | △ | □ |
| ⊗ | ◐ | ● | □ | △ | ■ | ⊗ |



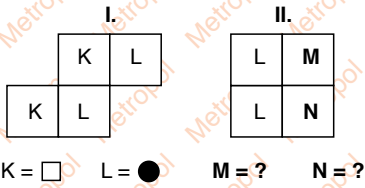
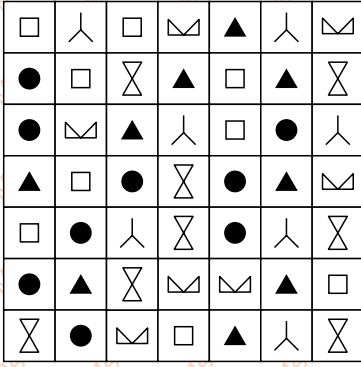
$$K = \square \quad L = \blacksquare \quad M = ? \quad N = ?$$

I ve II, yukarıdaki tablonun farklı birer parçasıdır. Buna göre, II deki M ve N'nin yerine aşağıdakilerden hangisi gelmelidir?

I and II are different parts of the figure above. Accordingly, which of the following combinations should replace M and N in II?

- |    |   |   |
|----|---|---|
|    | M | N |
| A) | ▲ | ● |
| B) | ⊗ | ● |
| C) | ● | ◐ |
| D) | ▲ | ⊗ |
| E) | ◐ | ▲ |

13.

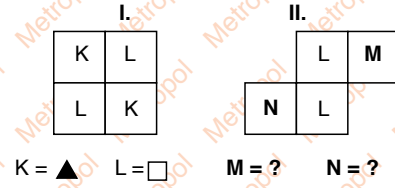
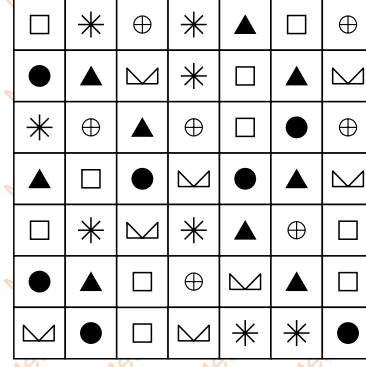


I ve II, yukarıdaki tablonun farklı birer parçasıdır. Buna göre, II deki M ve N nin yerine aşağıdakilerden hangisi gelmelidir?

I and II are different parts of the figure above. Accordingly, which of the following combinations should replace M and N in II?

- |    | M | N |
|----|---|---|
| A) | 人 | ▲ |
| B) | ⊗ | ⊗ |
| C) | ▲ | ⊗ |
| D) | ▲ | 人 |
| E) | ⊗ | ⊗ |

14.



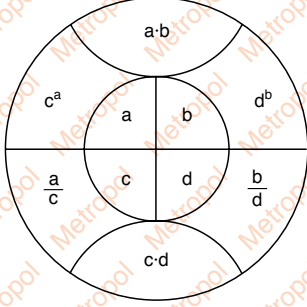
I ve II, yukarıdaki tablonun farklı birer parçasıdır. Buna göre, II deki M ve N nin yerine aşağıdakilerden hangisi gelmelidir?

I and II are different parts of the figure above. Accordingly, which of the following combinations should replace M and N in II?

- |    | M | N |
|----|---|---|
| A) | ⊕ | ● |
| B) | ⊕ | ⊗ |
| C) | ● | ⊗ |
| D) | ⊗ | ⊕ |
| E) | ⊗ | ● |

15. ve 17. soruları aşağıdaki şekle göre cevaplayınız.  
Answer questions 15 – 17 in accordance with the figure given below.

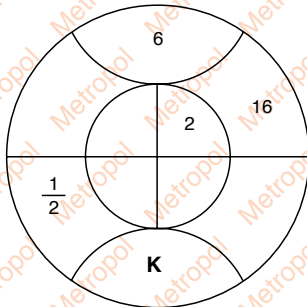
Her soru birbirinden bağımsız olarak cevaplanacaktır.  
Each question is to be answered independently.



Yukarıdaki şekil a, b, c ve d harfleriyle gösterilen dört pozitif tamsayıyı içeren bazı işlemlere göre düzenlenmiştir. Harflerin gösterdiği sayılar her soruda farklı olabilir fakat, bunlarla yapılacak işlemler her soruda aynıdır.

The figure above has been organized according to various operations using four positive integers represented by the letters, a, b, c and d. The integers represented by the letters may change from question to question, but the operations to be done remain the same.

15.



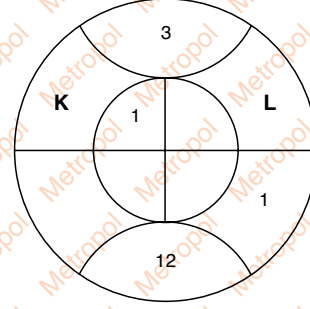
$\Rightarrow K = ?$

Yukarıda verilen şekle göre K kaçtır?

According to the figure above, what is the value of K?

- A) 6 B) 12 C) 15 D) 18 E) 24

16.



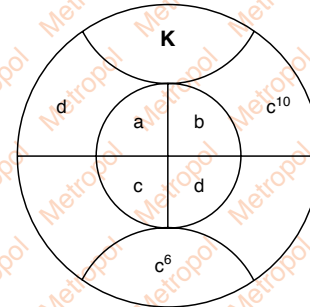
$\Rightarrow K + L = ?$

Yukarıda verilen şekle göre K + L kaçtır?

According to the figure above, what is the value of K + L ?

- A) 24 B) 31 C) 36 D) 40 E) 44

17.



$\Rightarrow K = ?$

Yukarıda verilen şekle göre K kaçtır?

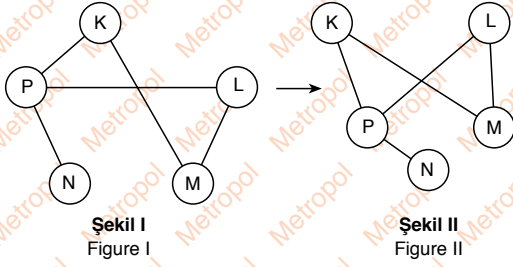
According to the figure above, what is the value of K?

- A) 6 B) 8 C) 10 D) 12 E) 14

18. ve 20. soruları örnekte verilen ilişkiye göre cevaplayınız.

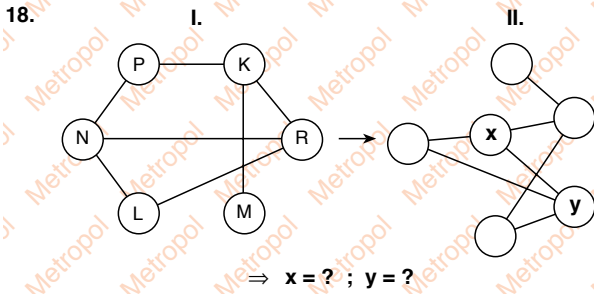
In questions 18 –20, find the correct answer in accordance with the relationship established in the example below.

**ÖRNEK / EXAMPLE:**



K, L, M, N ve P harfleri I. şekildeki gibi birbirine bağlanmıştır. I. şekildeki bağlantı sayıları ve birbirine bağlanan harfler değişmemek koşuluyla II. şekil elde edilmiştir.

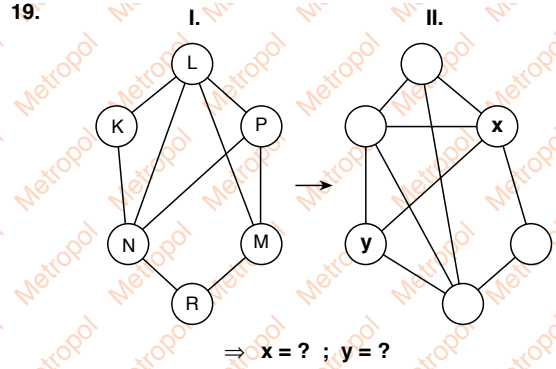
Letters K, L, M, N ve P are linked as in Figure I. Figure II has been constructed so as not to change which letters are linked to which, and the number of links made with each letter, in Figure I.



II. şekilde x ve y nin yerine gelmesi gereken harfleri bulunuz.

Find the letters that correspond to x and y in Figure II.

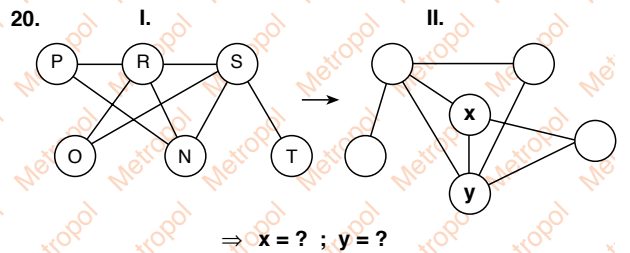
| x    | y |
|------|---|
| A) R | N |
| B) R | L |
| C) N | R |
| D) N | K |
| E) K | N |



II, şekilde x ve y nin yerine gelmesi gereken harfleri bulunuz.

Find the letters that correspond to x and y in Figure II.

| x    | y |
|------|---|
| A) L | K |
| B) L | R |
| C) N | K |
| D) N | P |
| E) N | R |

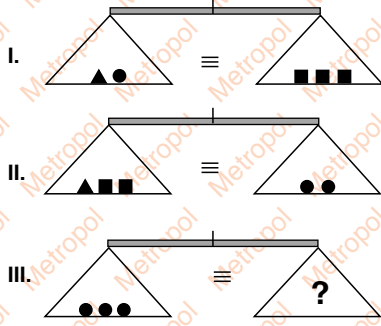


II, şekilde x ve y nin yerine gelmesi gereken harfleri bulunuz.

Find the letters that correspond to x and y in Figure II.

| x    | y |
|------|---|
| A) O | R |
| B) O | S |
| C) P | R |
| D) N | S |
| E) N | R |

21.

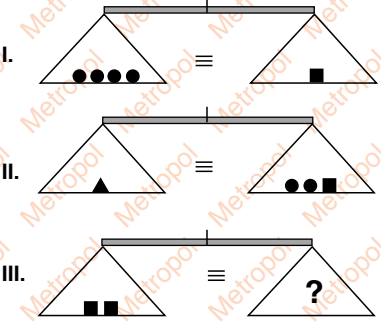


Yukarıdaki terazilerin üçü de dengede olduğuna göre, III. terazide soru işaretini aşağıdakilerden hangisi göstermektedir?

All three scales above are in balance. Accordingly, which of the following does the question mark stand for in the third scale?

- A) ▲▲■ B) ▲▲■ C) ▲■ ■ ■  
D) ■ ■ ■ ■ ■ E) ■ ■ ■ ■ ■

22.

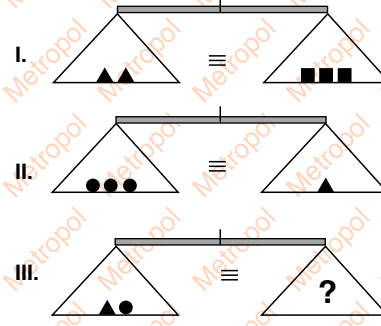


Yukarıdaki terazilerin üçü de dengede olduğuna göre, III. terazide soru işaretini aşağıdakilerden hangisi göstermektedir?

All three scales above are in balance. Accordingly, which of the following does the question mark stand for in the third scale?

- A) ●●● B) ●●▲ C) ▲▲●  
D) ■▲● E) ■▲▲

23.



Yukarıdaki terazilerin üçü de dengede olduğuna göre, III. terazide soru işaretini aşağıdakilerden hangisi göstermektedir?

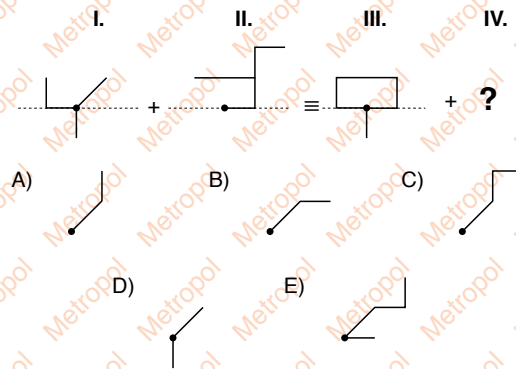
All three scales above are in balance. Accordingly, which of the following does the question mark stand for in the third scale?

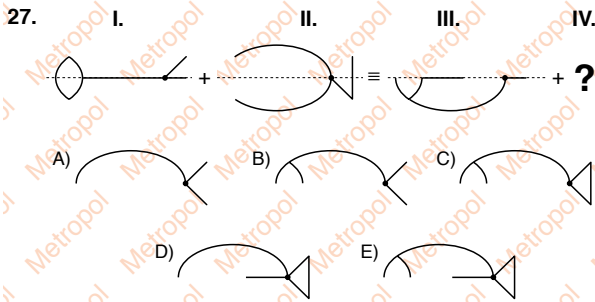
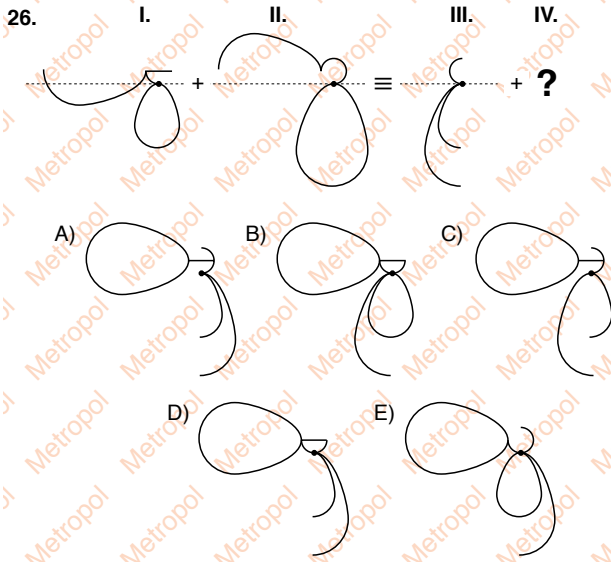
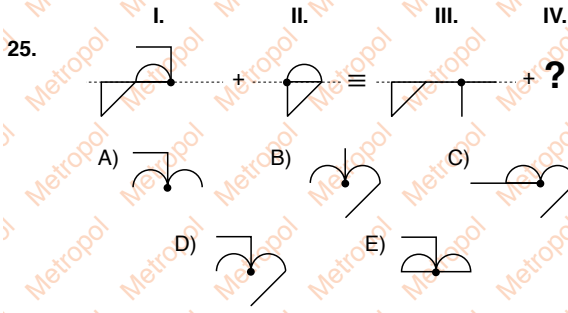
- A) ■■ B) ▲■ C) ■■●  
D) ■▲▲ E) ●●■ ■

24. – 27. sorularda, soru işaretinin yerine getirilmesi gereken şekli bulunuz.

In questions 24 – 27, find the figure to replace the question mark.

24.

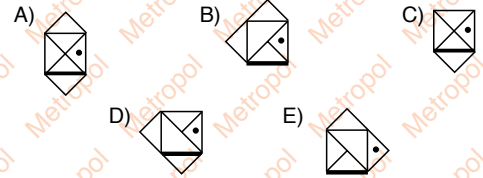
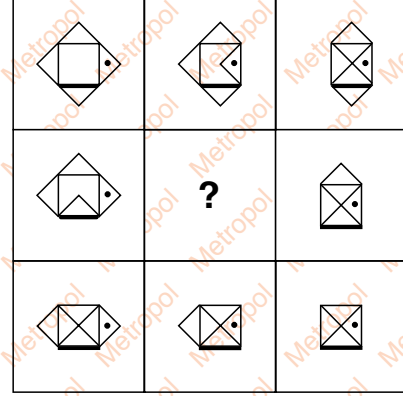




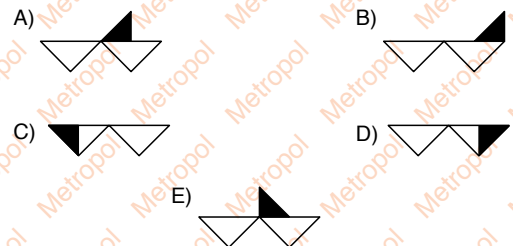
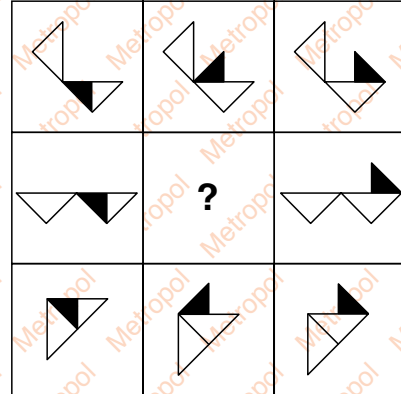
28. – 31. sorularda, verilen şekil matrisinde soru işaretinin yerine hangi şeklin getirilmesi gerektiğini bulunuz.

In questions 28 – 31, find the figure which the question mark stands for in the given figure matrix.

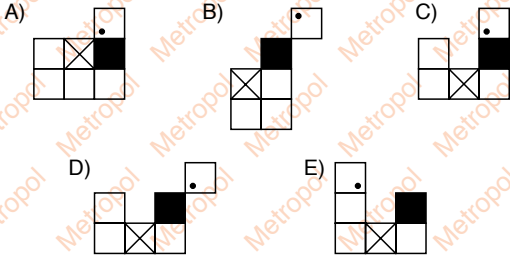
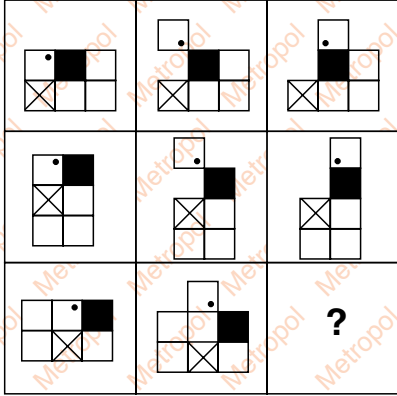
28.



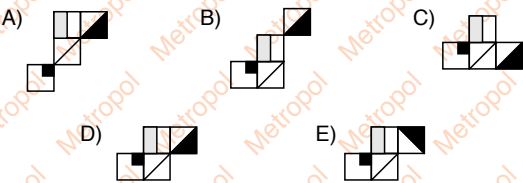
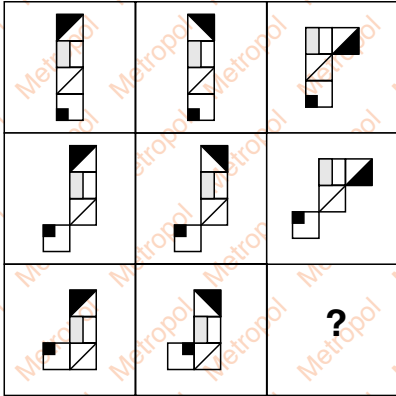
29.



30.



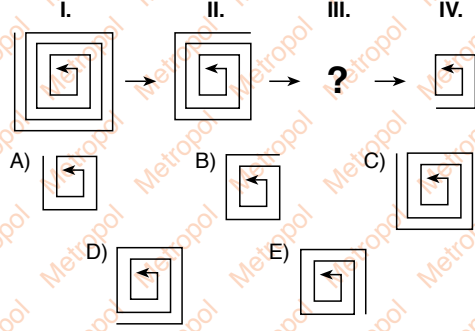
31.



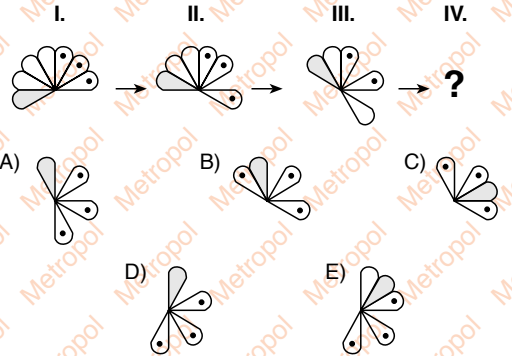
32. – 35. sorularda, verilen şekil dizisinde soru işaretinin yerine getirilmesi gereken şekli bulunuz.

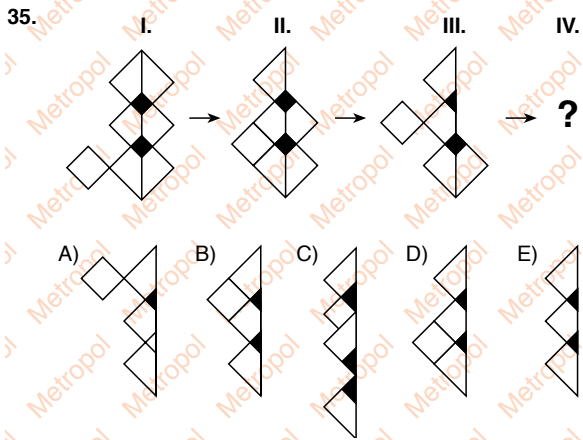
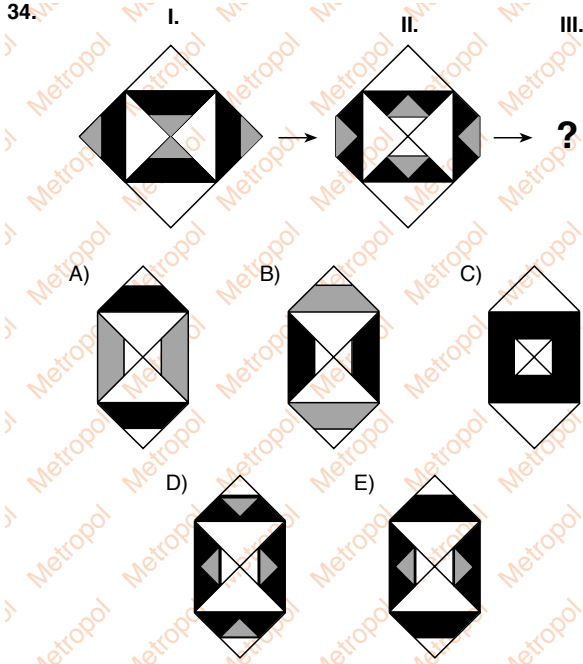
In questions 32 – 35, find the figure which the question mark stands for in the given figure sequence.

32.



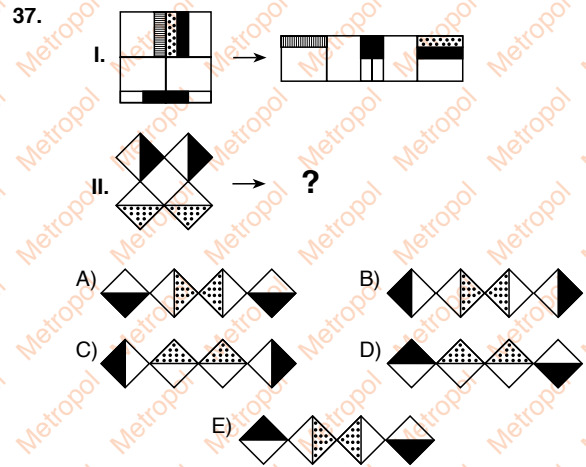
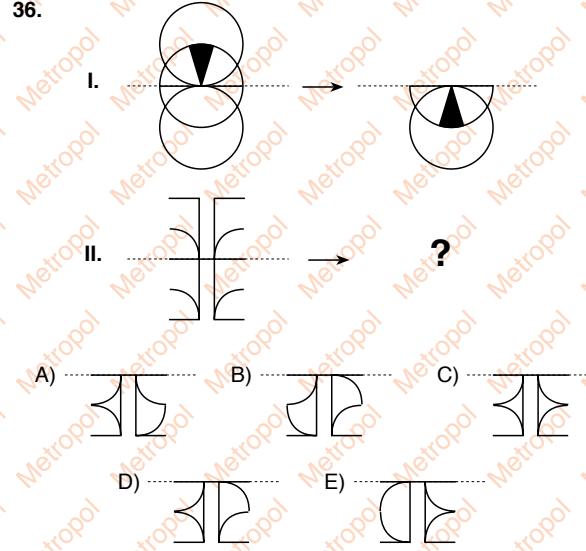
33.

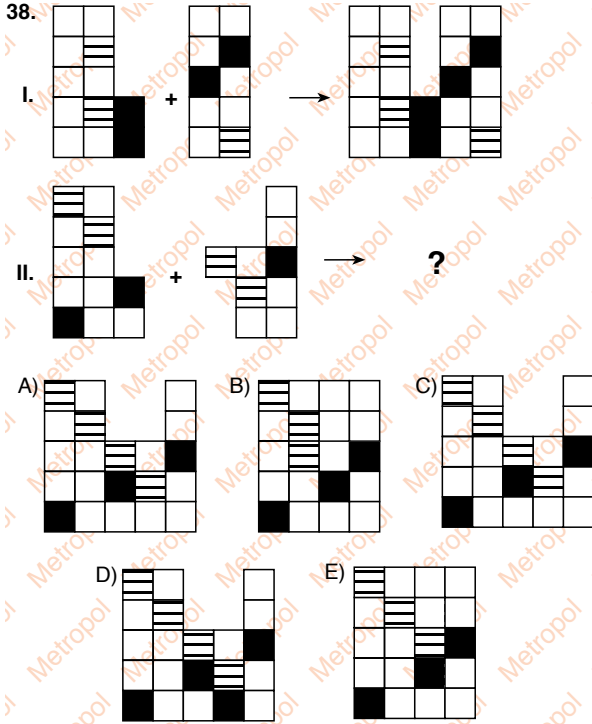




36. – 38. sorularda, I. satırda belirlenen ilişkiye göre II. satırı hangi şeklin tamamladığını bulunuz.

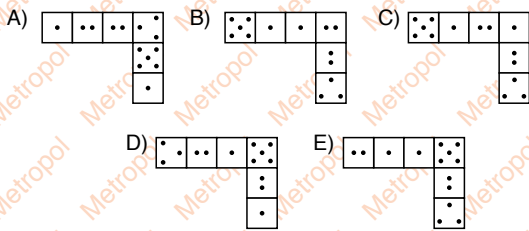
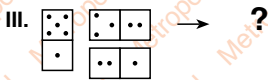
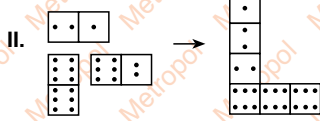
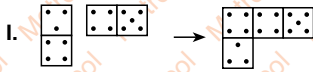
In questions 36 – 38, find the figure which completes row II in accordance with the relationship in row I.





39. I. ve II. satırda belirlenen ilişkiye göre III. satırı hangi şeklin tamamladığını bulunuz.

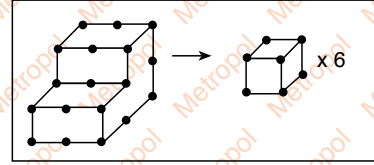
Find the figure which completes row III in accordance with the relationship established in row I and II.



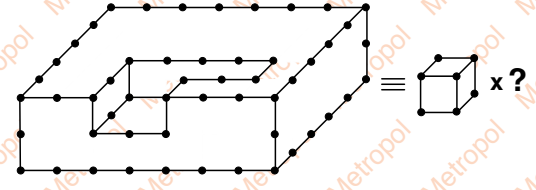
40. – 43. soruları örnekte verilen ilişkiye göre cevaplayınız.

In questions 40 – 43, find the correct answer in accordance with the relationship established in the example below.

ÖRNEK / EXAMPLE:

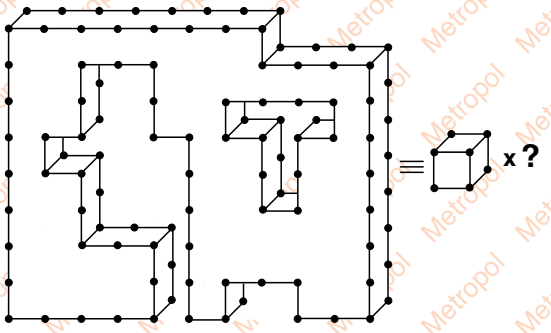


40.

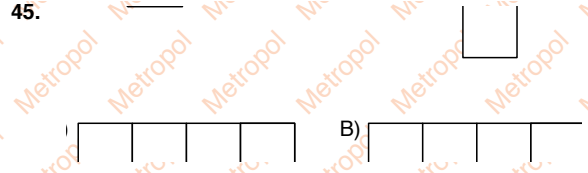
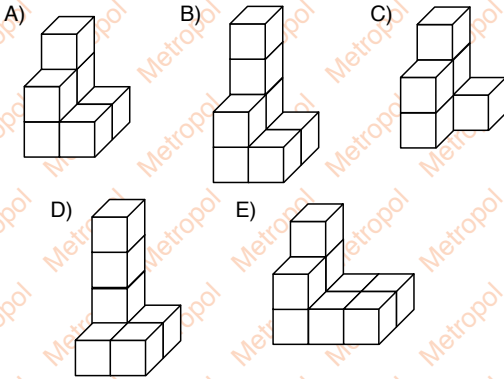
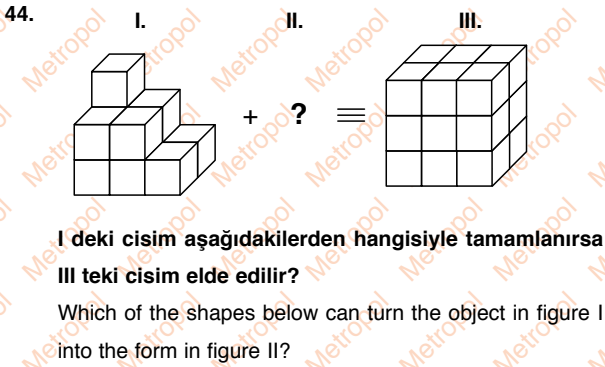
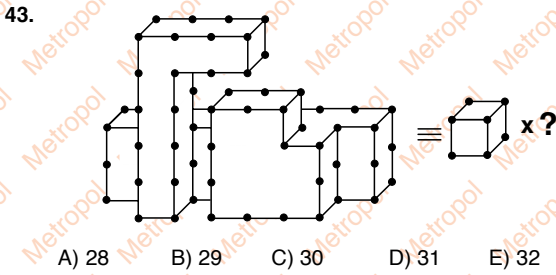
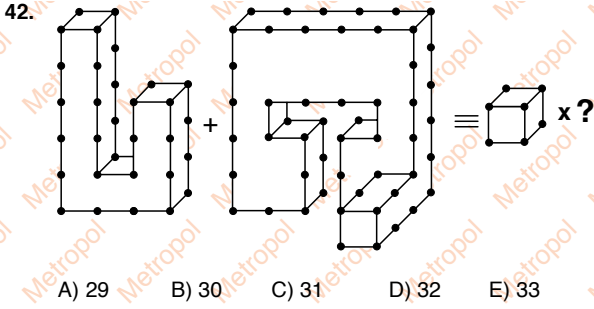


A) 61 B) 62 C) 63 D) 64 E) 65

41.

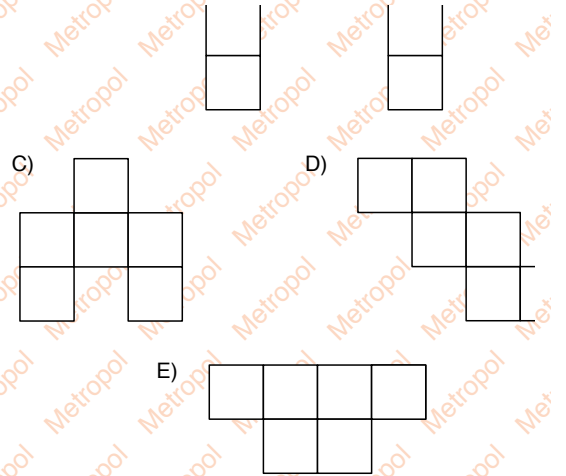


A) 53 B) 54 C) 55 D) 56 E) 57



Aşağıdakilerden hangisi yukarıdaki küpün açılımlarından biridir?

Which of the following can be formed by opening the cube shown above?



$$46. \frac{\sqrt{0,09 - 0,09}}{\sqrt{0,01 - 0,01}} = ?$$

- A)  $\frac{5}{2}$     B)  $\frac{7}{3}$     C)  $\frac{9}{4}$     D) 1    E) 3

$$47. 2^{-a+1} = \sqrt{3}$$

$$2^{2a} = ?$$

- A)  $\frac{3}{2}$     B)  $\frac{1}{3}$     C)  $\frac{4}{3}$   
D)  $2\sqrt{3}$     E)  $\frac{\sqrt{3}}{4}$

$$48. a + b = \frac{1}{6}$$

$$\frac{(a-b)^2 + ab}{3a^3 + 3b^3} = ?$$

- A) 1    B) 2    C) 3    D) 4    E) 6

$$49. A = \{x \mid 1 \leq x \leq 150, x \equiv 4 \pmod{5}\}$$

$$B = \{y \mid 75 \leq y \leq 200, y \equiv 2 \pmod{3}\}$$

$$s(A \cap B) = ?$$

- A) 4    B) 5    C) 6    D) 7    E) 8

$$50. n! = 1 \cdot 2 \cdot 3 \cdot \dots \cdot (n-1) \cdot n$$

$$\frac{(n+2)! + (n+1)!}{(n+1)!} = ?$$

- A)  $(n-1)!$     B)  $n!$     C)  $2n$   
D)  $n+2$     E)  $n+3$

$$51. x + y - z = 0$$

$$3x - y + z = 4$$

$$2x + 2y - z = 9$$

$$y = ?$$

- A) 7    B) 8    C) 9    D) 10    E) 11

$$52. a = \sqrt{(1 - \sqrt{5})^2}$$

$$b = \sqrt{(\sqrt{5} - \sqrt{20})^2}$$

$$a + b = ?$$

- A)  $2\sqrt{5} - 1$     B)  $2\sqrt{5} + 1$     C)  $4\sqrt{5} - 1$   
D)  $4\sqrt{5} + 1$     E)  $5\sqrt{5} - 1$

$$53. \left(x - \frac{2}{x}\right)^5 = Ax^5 + Bx^3 + Cx + Dx^{-1} + Ex^{-3} + Fx^{-5}$$

$$C = ?$$

- A) -36    B) -20    C) 24    D) 40    E) 64

$$54. f : \mathbb{R}^+ \rightarrow [-1, \infty)$$

$$f(x) = 3x^2 - 1$$

$$3(f^{-1}(x))^2 = ?$$

- A)  $x - 2$     B)  $x - 1$     C)  $x + 1$   
D)  $2x - 1$     E)  $3x + 1$

$$55. f(x) = x^2 - ax + 4$$

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

$$\frac{2}{x_1} + x_2 = 3$$

$$a = ?$$

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

56.  $\frac{x^2 + 5x + 6}{x^3 + x^2 - 2x} \cdot \frac{x^3 - x}{x^2 + 6x + 5} = ?$

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

57.  $(x^2 + 1)P(x) = ax^3 + (b-2)x + a - 1$

$a \cdot b = ?$

- A) -6      B) -4      C) 3      D) 6      E) 8

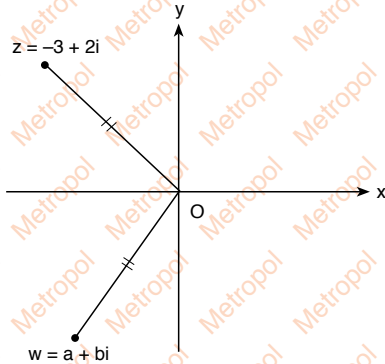
58.  $i^2 = -1$

$z = 3(i^{18}) + i^{17} + i^{16}$

$z = ?$

- A)  $-2 + i$       B)  $3 + i$       C)  $2 + 3i$   
 D)  $3 - i$       E)  $4 - 3i$

59.



$a^2 + b^2 = ?$

- A) 7      B) 9      C) 11      D) 13      E) 15

60.  $\sin x \cdot \cos x = \frac{1}{4}$

$\sin^4 x + \cos^4 x = ?$

- A)  $\frac{3}{4}$       B)  $\frac{5}{8}$       C)  $\frac{7}{8}$       D)  $\frac{5}{12}$       E)  $\frac{7}{12}$

61.  $AD \perp BD$

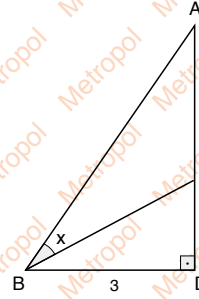
$IA CI = 4 \text{ cm,}$

$IC DI = 2 \text{ cm,}$

$IB DI = 3 \text{ cm,}$

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

$\Rightarrow \tan x = ?$



- A)  $\frac{2}{3}$       B)  $\frac{3}{5}$       C)  $\frac{4}{5}$       D)  $\frac{3}{7}$       E)  $\frac{4}{7}$

62.  $x > 0$

$\log_2(x+2) - \log_4 4x^2 = 2 \Rightarrow x = ?$

- A)  $\frac{2}{5}$       B)  $\frac{1}{6}$       C)  $\frac{2}{7}$       D)  $\frac{3}{8}$       E)  $\frac{4}{9}$

63.  $\sum_{k=1}^5 \ln\left(\frac{k+1}{k}\right) = ?$

- A)  $\ln \frac{2}{5}$       B)  $\ln \frac{5}{6}$       C)  $\ln 3$       D)  $\ln 5$       E)  $\ln 6$

64.  $\lim_{x \rightarrow -\infty} \frac{3^{-x} - 3^x}{3^{-x} + 3^x} = ?$

- A)  $-\frac{1}{3}$       B)  $-\frac{1}{9}$       C) 1      D)  $\frac{1}{3}$       E)  $\frac{1}{9}$

65.  $f(x) = x^3 + 2\sqrt{x}$

$\lim_{x \rightarrow 1} \frac{f(x) - f(1)}{x - 1} = ?$

- A) 3      B) 4      C) 5      D) 6      E) 7

66.  $f(x) = \cos 2x + \sin^2 x$

$$f'\left(\frac{\pi}{4}\right) = ?$$

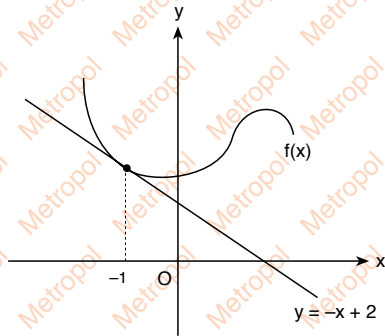
- A) -1    B) 0    C) 1    D) 2    E) 3

67.  $f(x) = \frac{x}{x^2 - 1}$

$$f'(0) = ?$$

- A) -4    B) -2    C) -1    D) 0    E) 2

68.



$$g(x) = x \cdot f(x)$$

$$\Rightarrow g'(-1) = ?$$

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

69.  $2x^2 - x - y^2 = 0$

$$\frac{dy}{dx} \Big|_{\substack{x=1 \\ y=1}} = ?$$

- A)
- $\frac{1}{2}$
- B)
- $\frac{3}{2}$
- C)
- $\frac{4}{3}$
- D)
- $\frac{5}{3}$
- E)
- $\frac{5}{4}$

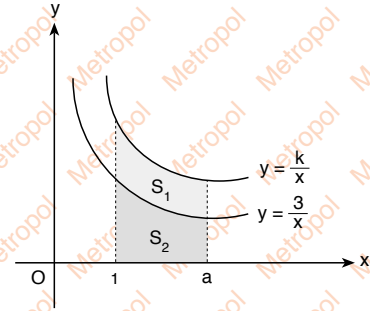
70.  $\int_1^{e^2} \frac{\ln^2 x}{2x} dx = ?$

- A)
- $\frac{4}{3}$
- B)
- $\frac{1}{4}$
- C)
- $\frac{3}{5}$
- D)
- $\frac{7}{6}$
- E)
- $\frac{4}{9}$

71.  $\int_0^1 \frac{4}{x^2 - 4} dx = ?$

- A)
- $-\ln 2$
- B)
- $-\ln 3$
- C)
- $2\ln 2$
- 
- D)
- $\ln 5$
- E)
- $\ln 6$

72.



$$S_1 = 8 br^2$$

$$S_2 = 12 br^2 \Rightarrow k = ?$$

- A) 4    B) 5    C) 6    D) 7    E) 8

73.  $m(\widehat{BAN}) = m(\widehat{NAC})$ ,

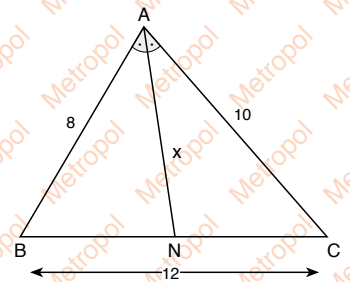
$$|AB| = 8 \text{ cm,}$$

$$|AC| = 10 \text{ cm,}$$

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

$$|AN| = x \text{ cm}$$

$$\Rightarrow x = ?$$

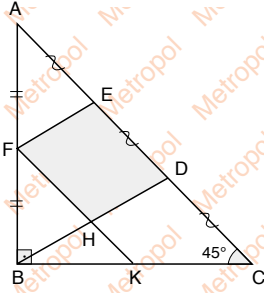


- A)
- $\frac{9}{2}$
- B)
- $\frac{15}{2}$
- C)
- $\frac{14}{3}$
- D)
- $\frac{20}{3}$
- E)
- $\frac{15}{4}$

74.  $FK \parallel AC$ 

$$\begin{aligned} m(\widehat{ABC}) &= 90^\circ, \\ m(\widehat{BCA}) &= 45^\circ, \\ |AE| &= |ED| = |DC|, \\ |AF| &= |FB| \\ \Rightarrow \frac{A(ABC)}{A(DEFH)} &= ? \end{aligned}$$

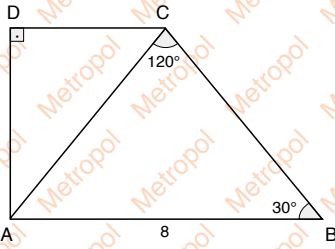
- A)  $\frac{3}{2}$  B)  $\frac{5}{2}$  C)  $\frac{7}{3}$  D) 2 E) 3

75.  $AB \parallel DC$ 

$$\begin{aligned} AD &\perp DC \\ m(\widehat{ACB}) &= 120^\circ, \\ m(\widehat{ABC}) &= 30^\circ \\ |AB| &= 8 \text{ cm} \end{aligned}$$

$$\Rightarrow A(ABCD) = ? \text{ cm}^2$$

- A) 9 B) 12 C)  $4\sqrt{3}$  D)  $8\sqrt{3}$  E)  $9\sqrt{3}$

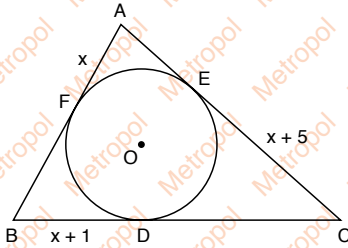
76.  $|AF| = x \text{ cm},$ 

$$|BD| = x + 1 \text{ cm},$$

$$|CE| = x + 5 \text{ cm}$$

$$|AB| + |BC| + |CA| = 42 \text{ cm} \Rightarrow x = ?$$

- A) 5 B) 6 C) 7 D) 8 E) 9



77.

$$d_1: 2x - 3y + 1 = 0$$

$$d_2: -x + y + 5 = 0$$

$$d_1 \cap d_2 = K \Rightarrow (a, b) = ?$$

- A) (-4, 1) B) (-1, 5) C) (7, 13)  
D) (9, 14) E) (16, 11)

78.

$$A = \begin{bmatrix} -1 & 1 \\ 0 & 2 \end{bmatrix}$$

$$B = \begin{bmatrix} 2 & 1 \\ 3 & 2 \end{bmatrix}$$

$$\Rightarrow A \cdot B^{-1} = ?$$

$$A) \begin{bmatrix} -5 & 3 \\ -6 & 4 \end{bmatrix}$$

$$B) \begin{bmatrix} 5 & 4 \\ 3 & -6 \end{bmatrix}$$

$$C) \begin{bmatrix} -4 & 3 \\ 2 & 6 \end{bmatrix}$$

$$D) \begin{bmatrix} 3 & 4 \\ -2 & -6 \end{bmatrix}$$

$$E) \begin{bmatrix} 4 & -6 \\ 2 & -3 \end{bmatrix}$$

79.

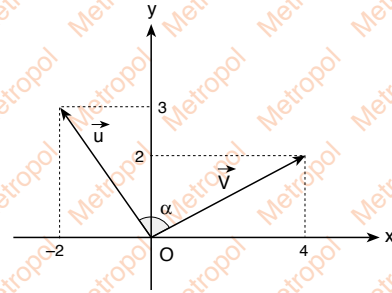
$$A = \begin{bmatrix} 1 & 2 \\ 0 & 3 \end{bmatrix}$$

$$B = \begin{bmatrix} -1 & 1 \\ -2 & 0 \end{bmatrix}$$

$$\det(A + B) = |A + B| = ?$$

- A) -3 B) -2 C) 0 D) 6 E) 8

80.



$$\Rightarrow \cos \alpha = ?$$

$$A) \frac{-\sqrt{65}}{65}$$

$$B) \frac{-\sqrt{39}}{39}$$

$$C) \frac{-\sqrt{13}}{13}$$

$$D) \frac{\sqrt{26}}{9}$$

$$E) \frac{\sqrt{13}}{5}$$

## Yanıt Anahtarı / Answer Sheet 2009

|       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|
| 1. B  | 2. D  | 3. B  | 4. A  | 5. E  | 6. D  | 7. D  | 8. C  |
| 9. E  | 10. A | 11. C | 12. B | 13. D | 14. A | 15. E | 16. B |
| 17. C | 18. A | 19. C | 20. E | 21. D | 22. B | 23. A | 24. C |
| 25. D | 26. A | 27. E | 28. B | 29. A | 30. C | 31. D | 32. E |
| 33. A | 34. D | 35. B | 36. C | 37. E | 38. A | 39. B | 40. D |
| 41. B | 42. C | 43. B | 44. A | 45. D | 46. B | 47. C | 48. B |
| 49. B | 50. E | 51. B | 52. A | 53. D | 54. C | 55. E | 56. E |
| 57. C | 58. A | 59. D | 60. C | 61. E | 62. C | 63. E | 64. C |
| 65. B | 66. A | 67. C | 68. E | 69. B | 70. A | 71. B | 72. B |
| 73. D | 74. E | 75. D | 76. A | 77. E | 78. A | 79. D | 80. A |