

ULUSLARARASI ÖĞRENCİ SINAVI | INTERNATIONAL STUDENT EXAM
TEMEL ÖĞRENME BECERİLERİ TESTİ | BASIC LEARNING SKILLS TEST

12.06.2021

A**GENEL AÇIKLAMA**
GENERAL INSTRUCTIONS

Bu sınavdaki soruların nasıl cevaplanacağı, testlerin başında açıklanmıştır. Soruları cevaplamaya başlamadan önce bu açıklamaları dikkatle okuyunuz.

Bu testlerdeki her sorunun bir tek doğru cevabı vardır. Bir soru için birden çok cevap işaretlenmişse, o soru yanlış cevaplanmış sayılacaktır.

Cevaplarınızı koyu siyah ve yumuşak bir kurşun kalemle işaretleyiniz. İşaretlerinizi cevap yerinin dışına taşırmayınız. Tükenmez kalem veya dolma kalem kullanmayınız.

Cevap kağıdınızı buruşturmayınız, katlamayınız ve üzerine gereksiz hiçbir işaret koymayınız.

Değiştirmek istediğiniz bir cevabı, yumuşak bir silgiyle, cevap kağıdını örselemeden, temizce siliniz ve yeni cevabınızı işaretlemeyi unutmayınız.

Adayların sınav puanı, doğru cevaplar dikkate alınarak yüz (100)'lük sistem üzerinden hesaplanacaktır. Yanlış cevaplar sınav sonucuna herhangi bir etki yapmayacaktır.

Sınavda uyulacak diğer kurallar bu kitapçığın arka kapağında belirtilmiştir.

How to answer the questions in this exam is explained at the beginning of each question. Read these explanations carefully before answering the questions.

Each question in these tests has only one correct answer. If more than one answer place is marked for a question, that question will be deemed to have been answered incorrectly.

Mark your answers with a dark-black soft pencil. Fill in the circle completely for the answer you have chosen, but make sure your mark does not go beyond the borders of the circle. Do not use any sort of ballpoint or fountain pens.

Keep the answer sheet flat and do not fold or crease it. Do not place any unnecessary marks on it.

Completely erase and clean the answer you want to change with a soft eraser. Do not forget to mark your new answer.

Exam scores of the candidates will be calculated according to the hundred (100) evaluation system by taking the correct answers only into consideration. Wrong answers will not have any effect on the test result.

Other rules and regulations to be followed in the exam are indicated on the back cover of this booklet.

ADI
NAME _____

SOYADI
SURNAME _____

ADAY NO
APPLICANT NUMBER _____

SINAV SALON NO
EXAM ROOM NUMBER _____

İMZA
SIGN

Adınızı, soyadınızı, aday numarası ve sınav salon numaranızı yukarıya yazınız.

Write your name, surname, applicant number and exam room numbers in the appropriate places above.

Bu testlerin her hakkı saklıdır. Hangi amaçla olursa olsun, testlerin tamamının veya bir kısmının Merkezimizin yazılı izni olmadan kopya edilmesi, fotoğrafının çekilmesi, herhangi bir yolla çoğaltılması, yayımlanması ya da kullanılması yasaktır. Bu yasağa uymayanlar gerekli cezai sorumluluğu ve testlerin hazırlanmasındaki mali külfeti peşinen kabullenmiş sayılır.

ONDALIK KESİRLERİ GÖSTERMEK İÇİN
TÜRKÇE METİNLERDE VİRGÜL (,) KULLANILIR.

DECIMALS ARE INDICATED BY A COMMA (,) IN TURKISH.

1. a ve b pozitif tamsayılardır. $a+b=32$ olduğuna göre ab çarpımının en büyük değeri kaçtır?

Let a and b are positive integers and $a+b=32$, then what is the maximum value of the product a and b ?

- A) 225 B) 256 C) 300 D) 320 E) 255

3. $0 < A < C < B$,

$$\begin{array}{r} ABC \quad | \quad 5 \\ \hline \quad \quad \quad | \quad 0 \end{array} \quad \begin{array}{r} BCA \quad | \quad 4 \\ \hline \quad \quad \quad | \quad 0 \end{array} \quad \begin{array}{r} CAB \quad | \quad 3 \\ \hline \quad \quad \quad | \quad 0 \end{array}$$

$$A \cdot B \cdot C = ?$$

- A) 30 B) 50 C) 80 D) 120 E) 210

2. $(0,05)^{-1} + \frac{0,55}{0,011} - \frac{0,7}{0,01} = ?$

- A) 0 B) $\frac{1}{2}$ C) 50 D) 70 E) 140

4. $\sqrt{2} (\sqrt{18} + \sqrt{50} - \sqrt{8} - 5\sqrt{2}) = ?$

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

5. $\frac{bc}{a}=1, \frac{ac}{b}=3, \frac{ab}{c}=4 \Rightarrow a^2+b^2+c^2=?$

- A) 9 B) 12 C) 15 D) 19 E) 22

6. $521 \cdot 523 - 517 \cdot 522 - 9 = ?$

- A) 2600 B) 2620 C) 2640 D) 2660 E) 2680

7. $x^2 - 3x - 3 = 0 \Rightarrow x^2 + \frac{9}{x^2} = ?$

- A) 12 B) 15 C) 3 D) 9 E) 6

8. $x^3 < x < x^2$ ve $y^2 < y$ ise aşağıdakilerden hangisi daima doğrudur?

If $x^3 < x < x^2$ and $y^2 < y$ then which of the following is always true?

- A) $x+y>1$ B) $x \cdot y < -2$ C) $x \cdot y > 0$
D) $\frac{x}{y} + \frac{y}{x} < 0$ E) $y > x^2$

9. Aşağıdaki eşitsizliği sağlayan farklı x tam sayılarının toplamı nedir?

What is the sum of different integers x 's satisfying the following inequality?

$$\frac{x^2 - 8x}{\sqrt{2} - \sqrt{17}} < \sqrt{2} + \sqrt{17}$$

- A) -9 B) -10 C) -6 D) -15 E) -12

11. $x < y < z < 0 \Rightarrow$

$$\sqrt{x^2 - 2xy + y^2} - \sqrt[3]{y^3 - 3y^2z + 3yz^2 - z^3} - |z - x| = ?$$

- A) $2x$ B) $2y$ C) 0 D) $2z$ E) $2z - 2x$

10.
$$\left. \begin{array}{l} 3y + 4z = 3 \\ x + 2y - z = 6 \\ -2x - 4y + 3z = 9 \end{array} \right\} \Rightarrow \frac{x}{y} + z = ?$$

- A) 12 B) 15 C) 18 D) 21 E) 24

12.
$$\frac{\left(\frac{2}{9} - A\right) : \frac{17}{3}}{\left(1 - \frac{2}{3}\right) : \frac{1}{4}} = -\frac{1}{2} \Rightarrow A = ?$$

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

13. $s(A \cup B) = 16$, $s(A^c) + s(B^c) = 14$, $s(E) = 18$
 $\Rightarrow s(A \cap B) = ?$

E evrensel küme / E is universal set $A^c = E - A$

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

14. $(g \circ f)(x) = 12x + 13$
 $g(x) = 4x + 5$ $\Rightarrow f(x) = ?$

- A) $f(x) = 2x - 1$ B) $f(x) = 3x - 2$ C) $f(x) = 3x + 2$
 D) $f(x) = 2x + 1$ E) $f(x) = 4x + 5$

15. C çift tamsayılar kümesi olsun. $A = [-\frac{\sqrt{17}}{2}, \sqrt[3]{63})$

ve $B = [-\sqrt{10}, \sqrt[4]{82})$ aralıklar olmak üzere

$(A \cup B) \cap C$ kümesinin eleman sayısı kaçtır?

Let C be set of even integers. What is the number of elements of the set $(A \cup B) \cap C$, where $A = [-\frac{\sqrt{17}}{2}, \sqrt[3]{63})$ and $B = [-\sqrt{10}, \sqrt[4]{82})$ are intervals.

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

16. $x^2 + |3x - 22| + 4 = 0$

Denkleminin çözüm kümesi aşağıdakilerden hangisidir?

What is the set of solution of the above equation?

- A) $\{-6, 3\}$ B) $\{-3, 6\}$ C) \emptyset D) $\{-6\}$ E) $\{3\}$

17. $3f^{-1}(x) = f^{-1}(x - 2)$, $f(6) = 1 \Rightarrow f(2) = ?$

f^{-1} : f nin ters fonksiyonu

f^{-1} : inverse function of f

- A) 0 B) 1 C) 2 D) 3 E) 5

18. $\binom{x}{2} = 3 - x \Rightarrow x = ?$, $C(n, r) = \binom{n}{r}$

- A) 0 B) 1 C) 2 D) 3 E) 4

19. $f(4 + \sqrt[3]{2x-5}) = 5 - 3x$, $g(4x^2 + 6x - 3) = x^2 + \frac{3}{2}x - 2$

$\Rightarrow f(3) + g(13) = ?$

- A) 8 B) 6 C) 5 D) -1 E) 1

20. 2030402 sayısının rakamları ile kaç farklı 7 basamaklı sayı yazılabilir?

How many different 7-digit numbers can be written with the digits of the number 2030402 ?

- A) 160 B) 200 C) 240 D) 280 E) 300

21. 8 kitabın 2'si Ahmet'e, 6'sı Ayşe'ye kaç farklı şekilde verilebilir?

How many different ways can be given 2 of 8 books to Ahmet and 6 of 8 books to Ayşe?

- A) 12 B) 14 C) 21 D) 28 E) 132

22. $\left(x - \frac{1}{x}\right)^8$ ifadesinin açılımındaki sabit terim aşağıdakilerden hangisidir?

Which of the following is the constant term in the expansion?

- A) 40 B) 70 C) 60 D) 80 E) 120

23. İki zar birlikte havaya atılıyor. Üst yüzlere gelen sayıların toplamının 8 olma olasılığı kaçtır?

The two dice are thrown into the air together. What is the probability that the sum of the numbers on the top faces is 8 ?

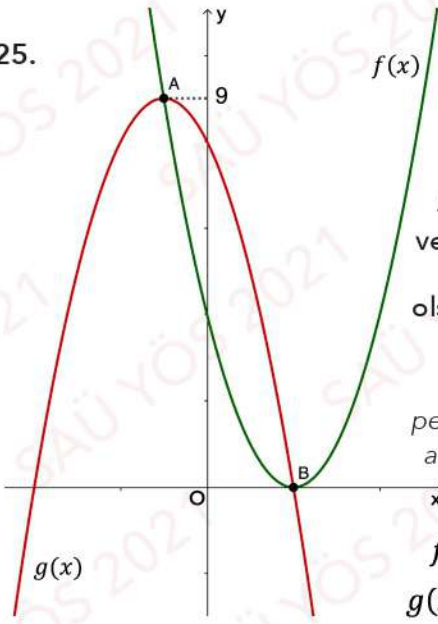
- A) $\frac{1}{6}$ B) $\frac{2}{9}$ C) $\frac{5}{36}$ D) $\frac{7}{36}$ E) $\frac{1}{3}$

24. 1 ile 100 arasından seçilen iki tam sayıdan birinin diğerinin üç katı olma olasılığı nedir?

What is the probability that one of the two integers chosen from 1 to 100 is three times the other?

- A) $\frac{1}{150}$ B) $\frac{1}{99}$ C) $\frac{1}{100}$ D) $\frac{1}{120}$ E) $\frac{1}{33}$

25.



A ve B sırasıyla $g(x)$ ve $f(x)$ parabolünün tepe noktaları olsunlar. Bu durumda $b=?$

Let A and B be the peaks of parabolas $f(x)$ and $g(x)$, respectively. Then, $b=?$

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

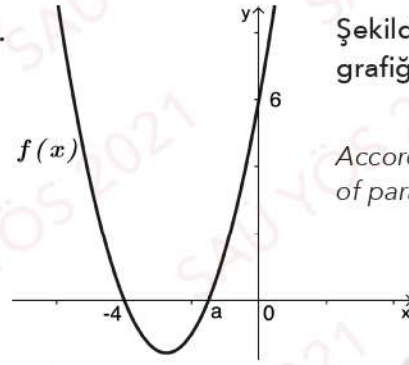
$$g(x) = -x^2 + bx + c$$

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

26. $(x+1)P(x) = x^3 + 4x^2 + 2x + n \Rightarrow P(x) = ?$

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

27.



Şekildeki parabolün grafiğine göre, $f(a-4) = ?$

According to the graph of parabola, $f(a-4) = ?$

- A) 3 B) 4 C) 9 D) 8 E) 6

28. $i^2 = -1$ olmak üzere $z=3i$ karmaşık sayısının kutupsal gösterimi hangisidir?

What is the polar form of the complex number $z=3i$, where $i^2 = -1$?

- A) $\cos \frac{\pi}{2} + i \sin \frac{\pi}{2}$ B) $2(\cos \frac{\pi}{2} + i \sin \frac{\pi}{2})$ C) $\cos \pi + i \sin \pi$
D) $3(\cos \pi + i \sin \pi)$ E) $3(\cos \frac{\pi}{2} + i \sin \frac{\pi}{2})$

29. $4^{x+1} - 2^{x+1} - 6 = 0 \Rightarrow x = ?$

- A) $\log_3 \frac{3}{2}$ B) $\frac{\ln 2}{\ln 3}$ C) $\frac{\ln 2 - \ln 3}{\ln 3}$
D) $\frac{\ln 3 - \ln 2}{\ln 2}$ E) $\log_2 \frac{2}{3}$

30. $i^2 = -1, \sum_{k=1}^{2021} i^k = ?$

- A) 0 B) 1 C) $-i$ D) i E) $2i$

31. $\frac{\cot 45 + \tan 30}{1 - \tan 45 \cdot \sec 60} = ?$

- A) $\frac{-1}{\sqrt{3}}$ B) $\frac{1}{\sqrt{3}}$ C) $-\left(\frac{1+\sqrt{3}}{2}\right)$
D) $\frac{1+\sqrt{3}}{2}$ E) $-\left(\frac{1+\sqrt{3}}{\sqrt{3}}\right)$

32. $\log_2 x + \log_{32} x = 12 \cdot \log_2 x \cdot \log_{32} x \Rightarrow x = ?$

- A) 2 B) $\sqrt{2}$ C) 4 D) 6 E) 8

33. $f(2x+3) = 3x^4 + 2x^3 - 5x^2 + 4x - 1 \Rightarrow f'(5) = ?$

- A) 6 B) 12 C) 5 D) 11 E) 8

35. $f(x) = x^3 - 6x + 2 \Rightarrow \lim_{h \rightarrow 0} \frac{f(2h+2) - f(2)}{h} = ?$

- A) 6 B) 10 C) 12 D) 16 E) 20

34. $x \in \left(\pi, \frac{3\pi}{2}\right), \frac{1 + \tan x}{3 + \tan x} = 2 \cot x \Rightarrow \sin^2 x - \cot x = ?$

- A)
- $\frac{27}{30}$
- B)
- $\frac{37}{30}$
- C)
- $\frac{17}{10}$
- D)
- $\frac{27}{10}$
- E)
- $\frac{17}{30}$

36. $\int_{-3}^3 |x^2 - 1| dx = ?$

- A) 0 B) 12 C) 14 D)
- $\frac{14}{3}$
- E)
- $\frac{44}{3}$

$$37. \lim_{x \rightarrow y} \frac{x\sqrt{x} - y\sqrt{y}}{y^2 - x^2} = ?$$

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

$$38. \int (x+3)f(x)dx = \frac{x^4}{4} + 27x + c$$

$$\Rightarrow f(0) + f'(0) = ?$$

- A) 9 B) 6 C) 3 D) -9 E) -6

$$39. f(x) \text{ 2. dereceden bir polinom ve } f(x) - f'(x) = 2x^2 + 3x + 4 \text{ ise } f(1) = ?$$

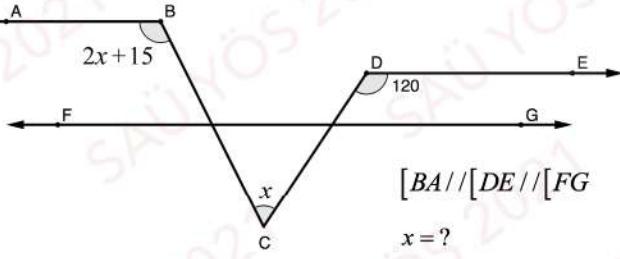
If $f(x)$ is a second order polynomial and $f(x) - f'(x) = 2x^2 + 3x + 4$ then $f(1) = ?$

- A) 21 B) 16 C) 14 D) 18 E) 20

$$40. \int_1^a \frac{x^2 - 1}{x^2} dx = \frac{4}{3} \Rightarrow a = ?$$

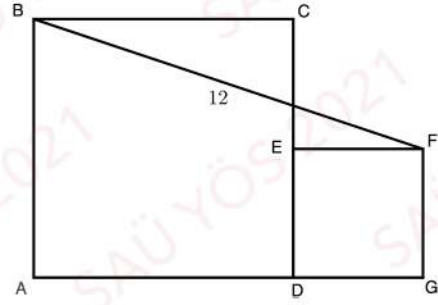
- A) 3 B) 2 C) 1 D) 4 E) 10

41.



- A) 30 B) 35 C) 40 D) 45 E) 50

43.

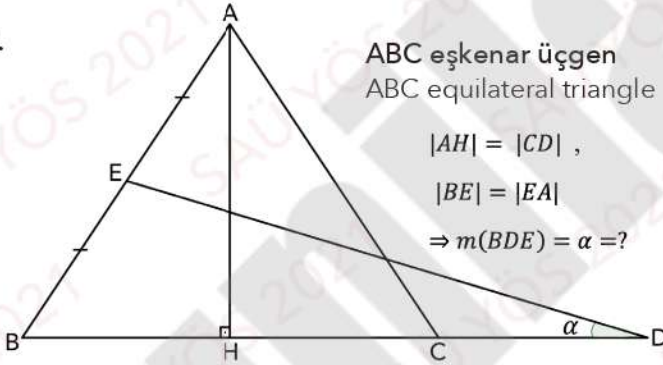


$|BF|=12\text{cm}$ 'dir. ABCD ve DEFG karelerinin alanlarının toplamı kaçtır?

If ABCD and DEFG are squares and $|BF|=12\text{cm}$, then what is the sum of the areas of the squares ABCD and DEFG

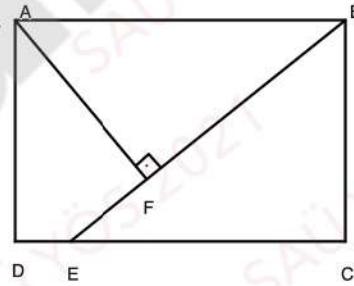
- A) 96 B) 36 C) 72 D) 108 E) 144

42.



- A) 10° B) 15° C) 20° D) 25° E) 30°

44.

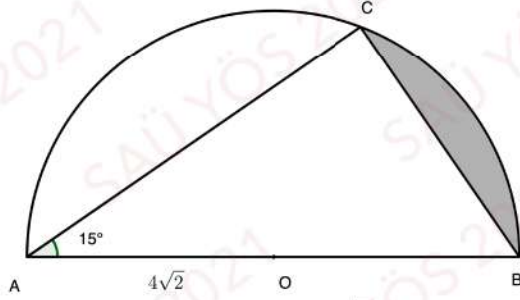


ABCD bir dikdörtgen.
ABCD is a rectangle.

$|EC|=16$, $|BC|=12$, $|EF|=4$
 $A(ABCD) = ?$

- A) 204 B) 240 C) 180 D) 192 E) 216

45.

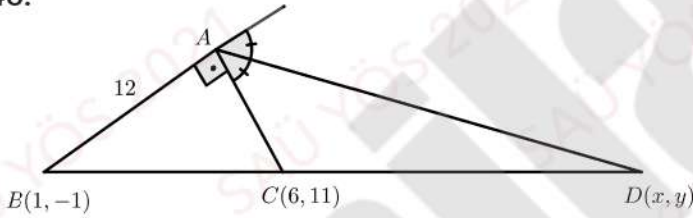


O noktası merkez ve $|AO| = 4\sqrt{2}$. Taralı bölgenin alanını bulunuz.

Point O is center and $|AO| = 4\sqrt{2}$. Find the area of shaded region.

- A) $\frac{8}{3}(\pi - 3)$ B) $8\pi - 3$ C) $\frac{8\pi}{3} - 3$
D) $\frac{4\pi}{3} - 3$ E) $\frac{4}{3}(\pi - 3)$

46.

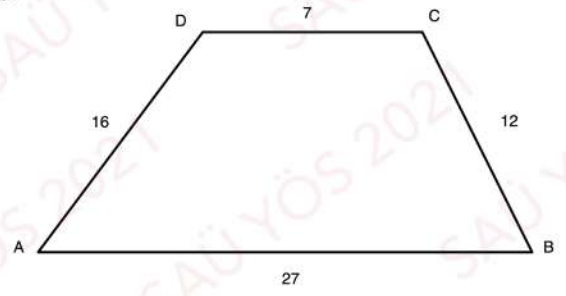


ABC analitik düzlemde bir dik üçgen $[AD]$ dış açıortay olduğuna göre $y - x = ?$

ABC is the right triangle in cartesian coordinates and $[AD]$ is an outer bisector. Find the value of $y - x = ?$

- A) 10 B) 9 C) 8 D) 7 E) 6

47.

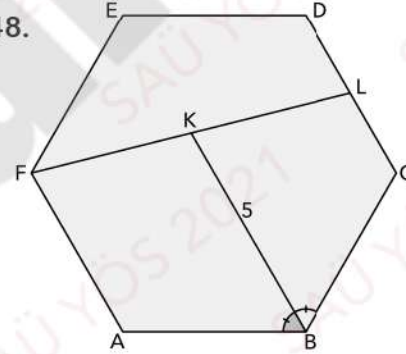


$ABCD$ bir yamuk, $|AB|=27$ cm, $|AD|=16$ cm, $|DC|=7$ cm, $|BC|=12$ cm olduğuna göre $A(ABCD)$ kaç cm^2 dir?

Let $ABCD$ is a trapezoid and $|AB|=27$ cm, $|AD|=16$ cm, $|DC|=7$ cm, $|BC|=12$ cm, then $A(ABCD)=?$

- A) 96 B) $\frac{288}{5}$ C) $\frac{288}{7}$ D) $\frac{816}{3}$ E) $\frac{816}{5}$

48.



$ABCDEF$ bir düzgün altıgen

$ABCDEF$ is a regular hexagon

$$m(\angle ABK) = m(\angle KBC)$$

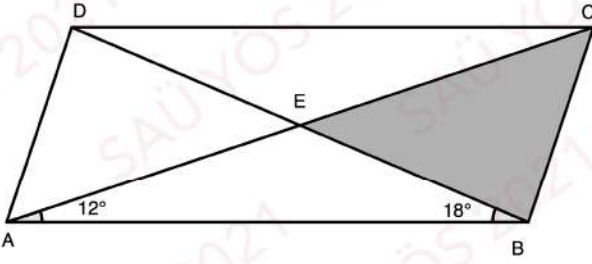
$$|DL| = |LC|$$

$$|BK| = 5$$

$$|FL| = ?$$

- A) 5 B) $2\sqrt{6}$ C) $2\sqrt{13}$ D) $13\sqrt{2}$ E) $6\sqrt{2}$

49.



ABCD paralelkenardır.

$$m(\angle EAB) = 12^\circ, m(\angle ABE) = 18^\circ$$

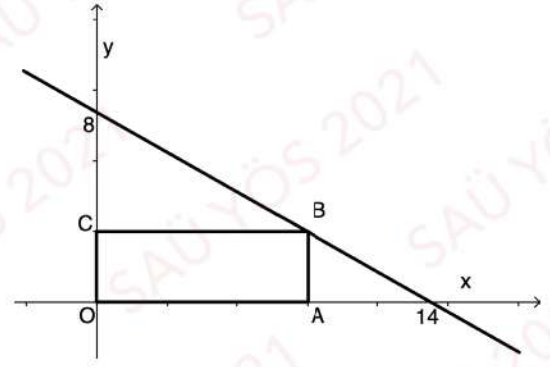
ABCD is a parallelogram.

$$|AC| = 8, |BD| = 6$$

$$A(\angle EBC) = ?$$

- A) 12 B) 6 C) 9 D) 3 E) 18

50.

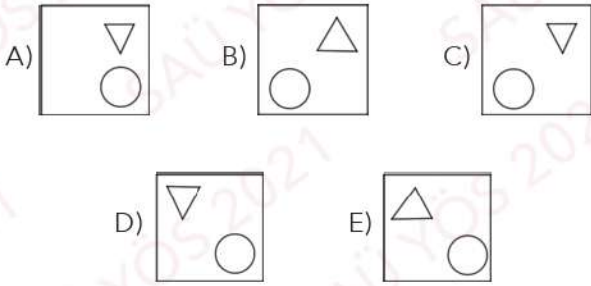
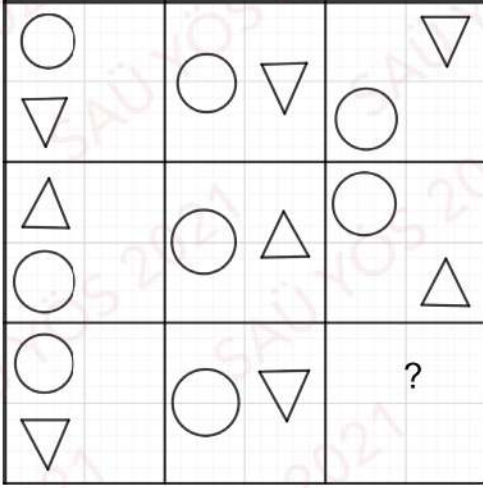


OABC dikdörtgeninin çevresi 22 cm olduğuna göre B noktasının apsisini bulunuz.

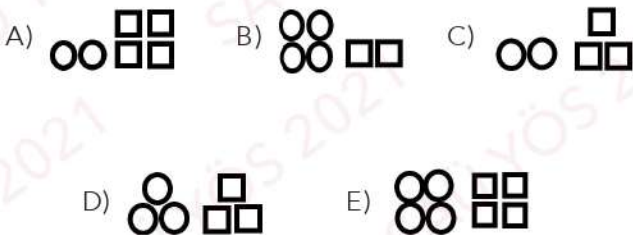
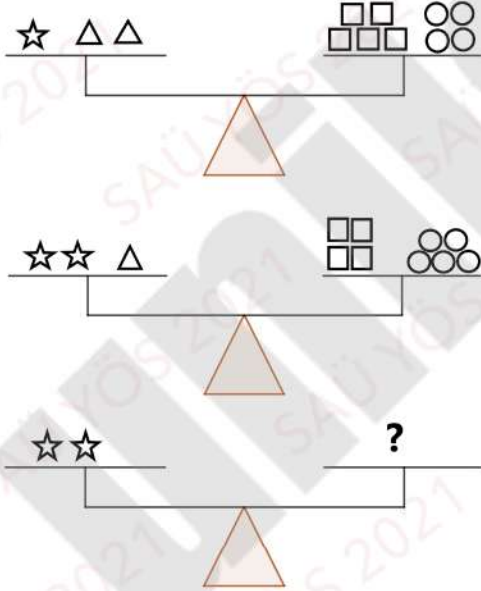
If perimeter of the rectangle OABC is 22 cm then find apsis of the point B.

- A) 12 B) 8 C) 10 D) 11 E) 7

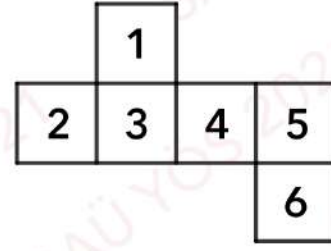
51.



52.

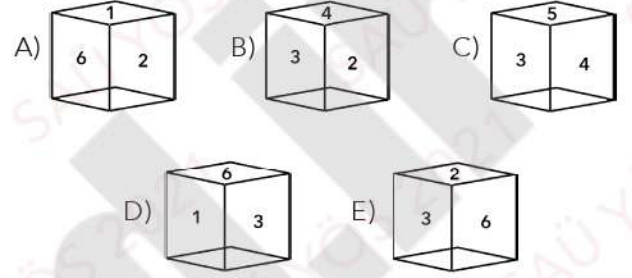


53.

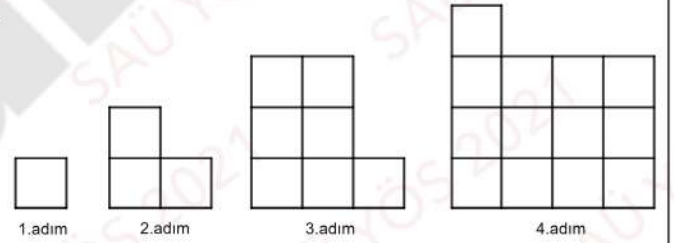


Yukarıda açık şekli verilen küp aşağıdakilerden hangisidir?

Which of the following is the open shape of cube given above?



54.

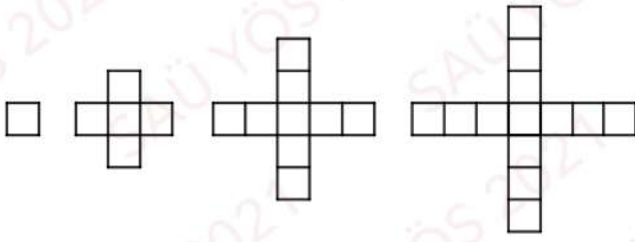


Yukarıdaki şekilde her bir küçük kare bir birim kare olmak üzere 15. Adımda kaç tane bir birimlik kare vardır?

How many unit squares are there in Step 15 according to the above figure where each little square is a unit?

- A) 122 B) 155 C) 211 D) 241 E) 273

55.



1.Adım

2.Adım

3.Adım

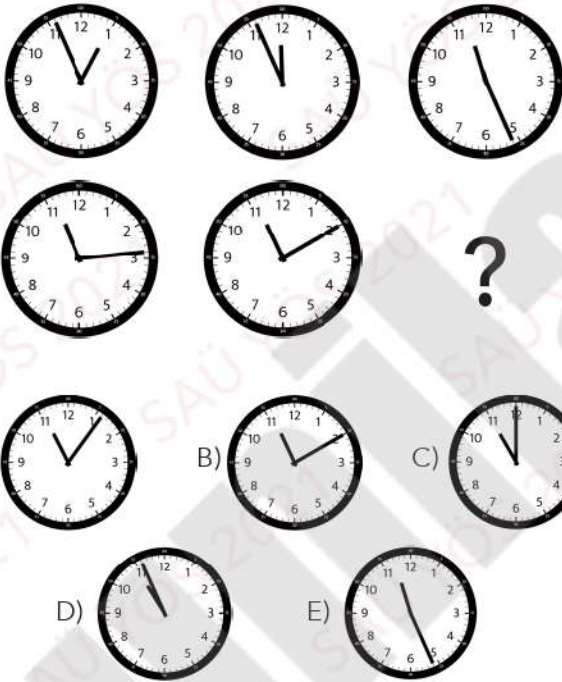
4.Adım

Yukarıdaki örüntüye göre 80. adımda kaç kare vardır?

How many squares are there in step 80 according to the above pattern?

- A) 317 B) 313 C) 311 D) 308 E) 301

56.



A)

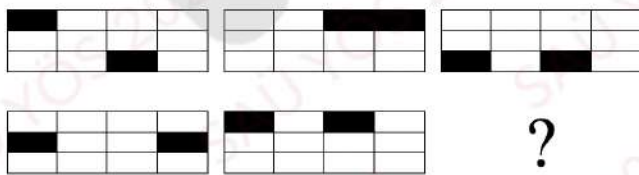
B)

C)

D)

E)

57.



A)

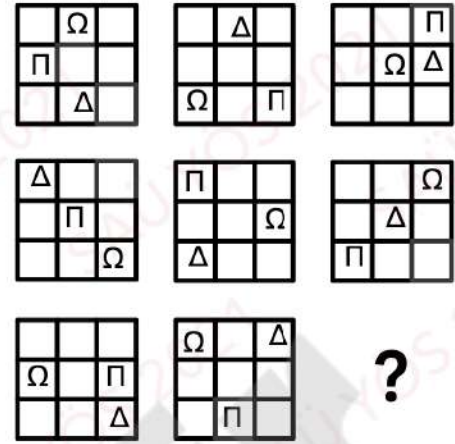
B)

C)

D)

E)

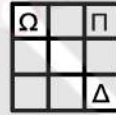
58.



Yukarıdaki şekilde ? yerine aşağıdakilerden hangisi gelmelidir?

Which of the following figure must stand instead of ? given above?

A)



B)



C)



D)



E)



59. Birbirine eş 125 küçük küpten oluşmuş büyük bir küpün bütün yüzeyleri boyanıyor. Bu durumda boyasız kaç küp bulunur?

All surfaces of a large cube made up of 125 identical small cubes are painted. In this case, how many unpainted cubes are there?

A) 9

B) 27

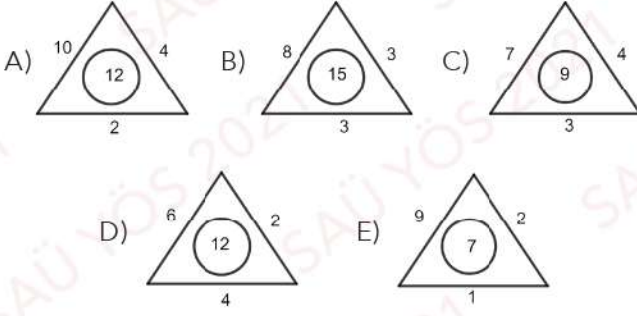
C) 18

D) 36

E) 64

60. Aşağıdakilerden hangisi farklıdır?

Which of the following is different?



61.

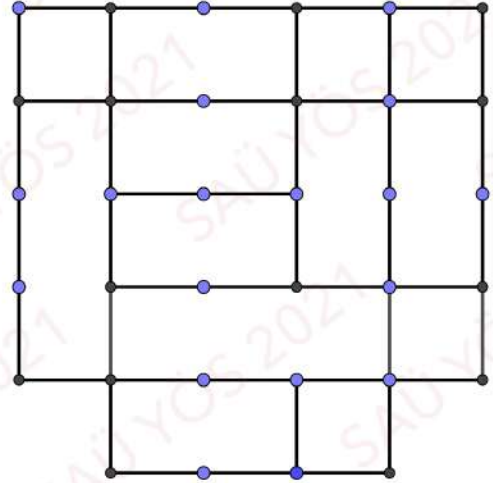
40	4	11	7
35	3	10	8
30	2	11	9
25	7	10	?

A) 6 B) 5 C) 4 D) 3 E) 2

62. 17, 33, 64, 124, 240, ?

A) 464 B) 442 C) 398 D) 468 E) 480




63.









Yukarıdaki resimde kaç kare vardır?




How many squares are there in the picture above?

A) 9 B) 10 C) 11 D) 12 E) 15

64.  +  +  = 18

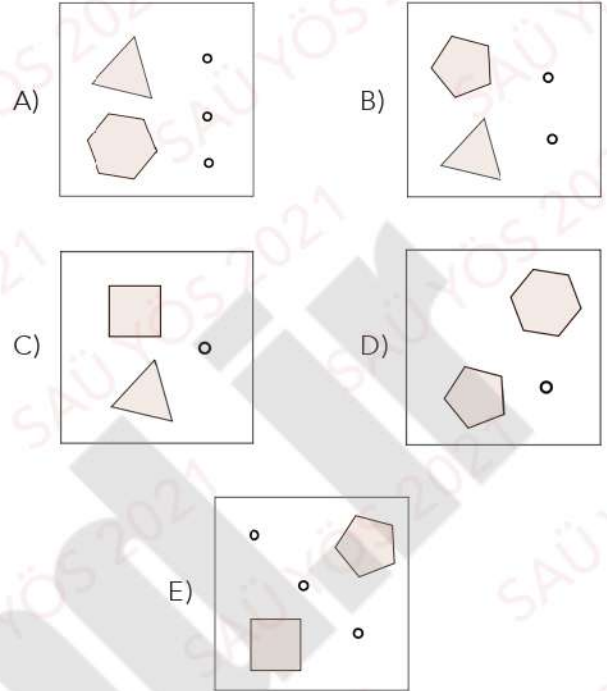
 +  +  = 10

 +  +  = 5

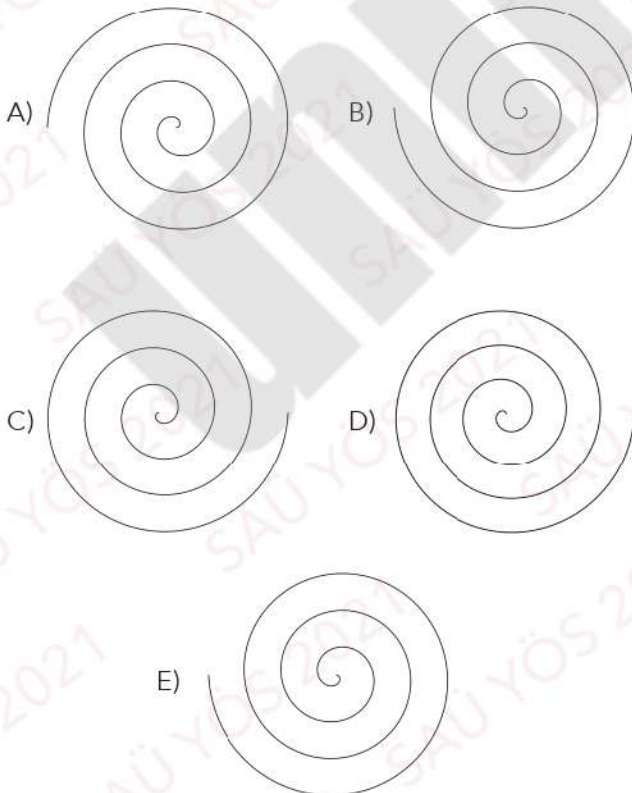
 +  +  = ?

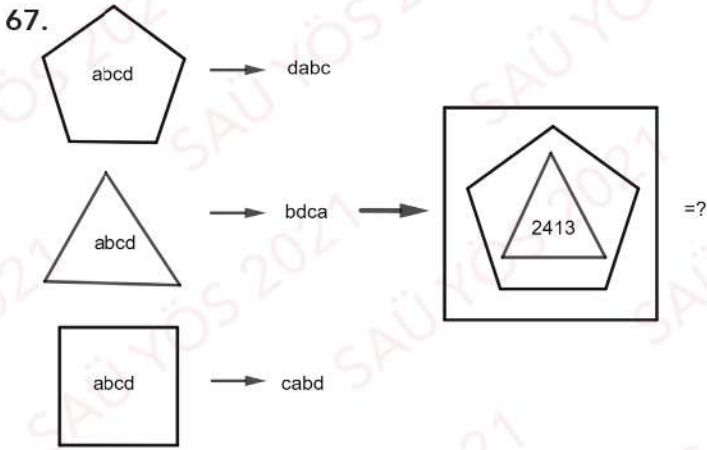
- A) 7 B) 8 C) 9 D) 11 E) 13

66. Aşağıdakilerden hangisi farklıdır?
 Which of the following is different?

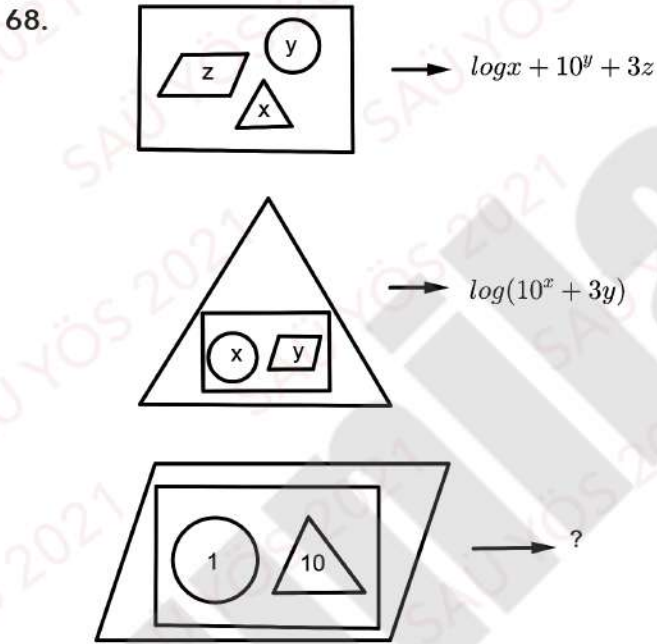


65. Aşağıdakilerden hangisi farklıdır?
 Which of the following is different?





- A) 3241 B) 3214 C) 4312 D) 2431 E) 4132



- A) 3 B) 33 C) 31 D) 12 E) 39



Yukarıdaki şekildeki tüm kesik parçalarla aşağıdaki figürlerden hangisi elde edilemez?

Which of the following figures can not be obtained with the all pieces in the above figure?

