# آزمون های آزمایشی

# پوس

# EXAM-4

**1)** $\frac{2}{3x-y}=\frac{5}{3z-x}=\frac{3}{3y-z}=\frac{1}{3}$

$x+y+z=?$

A) 6 B) 12 C) 15 D) 24 E) 30

**2)** $20x=15y=12z, 2x-3y+z=-2$

$x=?$

A) 3 B) 4 C) 6 D) 8 E) 10

**3)** $\frac{2y+z}{y}=\frac{x+y+z}{x}=\frac{z+2x}{z}$

**olduğuna göre,** $\frac{x+y}{z}.\frac{x+z}{y}.\frac{y+z}{x}$ **ifadesinin değeri kaçtır?**

*since,* $\frac{x+y}{z}.\frac{x+z}{y}.\frac{y+z}{x}$ *What is the value of the expression?*

A) 3 B) 6 C) 8 D) 16 E) 27

**4)** $\left(x^2+y^2+z^2+50\right)$ **sayısı ile** $\left(6x+8y+10z\right)$ **sayısının aritmetik ortalaması geometrik ortalamasına eşittir.**
**Buna göre, x.y.z çarpımı kaçtır?**

$\left(x^2+y^2+z^2+50\right)$ *with the number* $\left(6x+8y+10z\right)$ *the arithmetic mean of the number geometric is equal to the average. Accordingly, what is the product of x.y.z?*

A) 30 B) 40 C) 50 D) 60 E) 70

**5)** $\frac{x}{y}=\frac{z}{t}=k$

$\frac{x-3y}{3x+y}+\frac{z+2t}{z-t}=\frac{3}{2}$

**olduğuna göre, k nın alabileceği farklı değerler toplamı kaçtır?**

*what is the total of the different values that k can take?*

A) 10 B) 11 C) 12 D) 13 E) 14

**6)** $2a-\frac{5}{b}=32$

$2b-\frac{5}{a}=8$

$\Rightarrow \frac{a}{b}=?$

A) $\frac{1}{16}$ B) $\frac{1}{4}$ C) 1 D) 4 E) 8

**7)**

$a,b,c\in Z^+$

$\frac{ab}{3}=\frac{bc}{4}=\frac{ac}{5}\Rightarrow \min\left(a+b+c\right)=?$

A) 30 B) 32 C) 37 D) 41 E) 47

**8)** $\frac{ax}{b}=\frac{cy}{d}=\frac{ez}{f}=4,\ a+c+e=16$

$\Rightarrow \frac{b}{x}+\frac{d}{y}+\frac{f}{z}=?$

A) 64 B) 36 C) 24 D) 4 E) $\frac{1}{4}$

**9)** $\frac{1}{a-1}=\frac{2}{b-2}=\frac{3}{c-3}$

$\Rightarrow \frac{a+c}{c}=?$

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

**10)** $a,b,c \in Z^+$ **olmak üzere,**

$a,b,c \in Z^+$ *including,*

$\frac{a}{c}=\frac{3}{5}$

$\frac{b}{c}=\frac{4}{7}$

**olduğuna göre, a+b toplamı a–b farkının kaç katıdır?**

*how many times the sum of a+b is the difference of a–b?*

A) 33 B) 37 C) 41 D) 47 E) 51

**11)** $A \subset B \subset C, n(A)=8, n(B)=12, n(C)=20$

$n(A \cap C)+n(C-B)=?$

A) 12 B) 14 C) 16 D) 18 E) 20

**12)**

$A \cap B \neq \varnothing$

$n(A' \cap B')=4, n(A' \cup B')=11$

$\min[n(A)+n(B)]=?$

A) 9 B) 10 C) 11 D) 12 E) 13

**13)**

$B-A \neq \varnothing$

$n(A \cap B)=12$

$n(A \cup B)=21$

$\max[n(A-B)]=?$

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

**14)** **A ve B iki kümedir.**

*A and B are two sets.*

$s(A)=3x-2$

$s(B)=3x-3$

$s(A \cup B)=4x+2$

**olduğuna göre, x in alabileceği <u>en küçük</u> değer kaçtır?**

*what is the <u>smallest</u> value that x can take?*

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

**15)** **A ve B, E evrensel kümesinin alt kümeleridir.**

*A and B are subsets of the universal set E.*

$A=\{x : x=3k+1, x<100, k \in \mathbb{N}\}$

$B=\{y : y=5n+4, y<120, n \in \mathbb{N}\}$

**olduğuna göre,** $B \cap (A' \cup B')$ **kümesinin eleman sayısı kaçtır?**

*how many elements are in the set* $B \cap (A' \cup B')$ *?*

A) 14 B) 15 C) 16 D) 17 E) 18

**16)** **A, B ve C kümeleri, E evrensel kümesinin alt kümeleridir.**
*A, B and C are sets, E is universal are subsets of the set.*

$s(A \cap B) = 9$

$s(B) = 23$

$s(B \cap C) = 7$

$s(B \cap A' \cap C') = 10$

**olduğuna göre,** $s(A \cap B \cap C)$ **kaçtır?**
*Since , what is* $s(A \cap B \cap C)$ ?

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

**17)** $A = \{a, b, c, d, e, f\}$

**kümesinin alt kümelerinin kaç tanesinde b veya d elemanı bulunur?**
*How many of the subsets of the set have b or d elements?*

A) 16 B) 28 C) 32 D) 48 E) 64

**18)** **M = {1, 2, 3, 4, 5, 6} kümesinin alt kümelerinin kaç tanesinde 3 eleman olarak bulunur, 5 bulunmaz?**
*how many subsets of set M = {1, 2, 3, 4, 5,6} have 3 as an element, but don't have 5?*

A) 8 B) 16 C) 24 D) 32 E) 36

**19)** $M = \{x \mid x \in \mathbb{N}, 5 < x \leq 12\}$ **kümesinin 3 elemanlı kaç alt kümesi vardır?**
*How many subsets with 3 elements does the set* $M = \{x \mid x \in \mathbb{N}, 5 < x \leq 12\}$ *have*

A) 7 B) 14 C) 21 D) 28 E) 35

**20)** $(M \cap N) \cup [M' \cup (M \setminus N)] = ?$

A) N B) M C) $M \cup N$ D) E E) $M \cap N$

**21)** $A \cup B = E$

$M = (B \cap A') - A$

$N = (B \setminus A)' \cup A$

$\Rightarrow M \cup N = ?$

A) A B) B C) $(A \setminus B)'$ D) $B'$ E) $A \cup B$

**22)** $A = \{x \mid x \in \mathbb{N} \quad 12 < x < 75 \quad x = 1 (\text{mod } 3)\}$

$B = \{y \mid x \in \mathbb{N} \quad 3 < x < 71 \quad x = 2 (\text{mod } 4)\}$

$\Rightarrow n(A \cap B) = ?$

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

**23)** $n(A\cap B')=x,$
$n(A\cap B)=2x+3, n(B\cap A')=x+1$
$n(A\cup B)=32$
$\Rightarrow n(A\setminus B)=?$

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

**24)** $s(E)=9$
$s(A\cap B)=3$
$s(A\cup B)=6$
$s(B)=4$
$s(A')=?$

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

**25)** $P\subset Q\subset R$
$n(P)=3$
$n(Q)=5$
$n(R)=9$
$\Rightarrow n(P\cup Q)+n(P\cap R)=?$

A) 12 B) 9 C) 8 D) 5 E) 3

**26)** $f(x)=\dfrac{3^x+3^{-x}}{3^x-3^{-x}}$
$f(2)=?$

A) $\frac{39}{40}$ B) $\frac{41}{40}$ C) $\frac{43}{40}$ D) $\frac{45}{40}$ E) $\frac{47}{40}$

**27)** $f^{-1}(x)=\dfrac{4-2x}{3x-5}$
$f(x)=?$

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

**28)** $f\left(\dfrac{x+1}{x-1}\right)=\dfrac{2x+5}{x}$
$f(2)=?$

A) 3 B) $\frac{10}{3}$ C) $\frac{11}{3}$ D) 4 E) $\frac{13}{3}$

**29)** $f(2x-3)=4x+5,\quad f^{-1}(2a-1)=5$
$a=?$

A) 7 B) 9 C) 10 D) 11 E) 14

**30)** $f(x)=3x-5,\quad g(x)=2^{x+1},\quad h(x)=2x-3$
$(fogoh)(2)=?$

A) 22 B) 18 C) 15 D) 7 E) 5

**31)** $f:R\to R$ **olmak üzere,**

$f:R\to R$ *to be*

$$f(x)=x^2-6x+3$$

**olduğuna göre, f(2013)-f(-2007) farkı kaçtır?**

*since, what is the difference between f(2013)- f(-2007)?*

A) -2007 B) 0 C) 12 D) 2017 E) 2310

**32)** $$f(x)=\begin{cases} 2x & , \quad x\geq\sqrt{5} \\ x+\dfrac{1}{2} & , \quad x<\sqrt{5} \end{cases}$$

**olduğuna göre,** $f\left(\frac{7}{2}\right)+f\left(\frac{1}{2}\right)$ **toplamı kaçtır?**

*since,* $f\left(\frac{7}{2}\right)+f\left(\frac{1}{2}\right)$ *what is the total?*

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

**33)** $R\to R$ **olmak üzere,**

$R\to R$ *to be ,*

$$f(x)=(m+1)x^2+(1-2m)x+4$$

**fonksiyonu bire bir olduğuna göre, f(2) kaçtır?**

*Since the function is one to one, what is f(2)?*

A) 8 B) 9 C) 10 D) 11 E) 12

**34)** $f:[a,b]\to R$ **olmak üzere,**

$f:[a,b]\to R$ *to be ,*

$$f(x)=|x-2|+|x+11|$$

**fonksiyonu sabit fonksiyon olduğuna göre, b–a farkı <u>en çok</u> kaçtır?**

*Since the function is a constant function, what is the <u>maximum</u> difference between b and a?*

A) 9 B) 10 C) 11 D) 12 E) 13

**35)** $R\to R$ **olmak üzere,**

$R\to R$ *to be ,*

$$f(x+5)=f(x)-2$$

$$f(3)=18$$

**olduğuna göre,f(-17) kaçtır?**

*If so, what is f(-17) ?*

A) 12 B) 16 C) 20 D) 24 E) 26

**36) A={1, 2, 3, 4} kümesi üzerinde f ve g permütasyon fonk-siyonları tanımlanmıştır.**

*f and g on the set A={1, 2, 3, 4} permutation functions has been defined.*

$$g=\begin{pmatrix}1&2&3&4\\3&4&1&2\end{pmatrix}\quad fog=\begin{pmatrix}1&2&3&4\\2&3&4&1\end{pmatrix}$$

**olduğuna göre,**

**$f(2)+f^{-1}(3)$ toplamı kaçtır?**

*If so, what is the sum of* $f(2)+f^{-1}(3)$ *?*

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

**37)** $f : R-\{-1\} \to R-\{2\}$ **olmak üzere,**
$f : R-\{-1\} \to R-\{2\}$ *including,*

$$f(x) = \frac{2x+a}{x+1}$$

$$(fof)(x) = \frac{x-9}{3x-2}$$

**olduğuna göre, a kaçtır?**
*Since, how much is a ?*

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

**38)** $f(x-1) + f(2x) = 14 - f(3x-1)$

**olduğuna göre,**
**f(2)+f(0)+f(-1) toplamı kaçtır?**
*If so, what is the sum of f(2)+f(0)+f(-1)?*

A) 7 B) 11 C) 14 D) 18 E) 28

**39)** $f : [3,\infty) \to [6,\infty)$ **olmak üzere,**
$f : [3,\infty) \to [6,\infty)$ *including*

$$f(x) = x^2 - 6x + 15$$

**olduğuna göre, $f^{-1}(x)$ fonksiyonu aşağıdakilerden han- gisidir?**
*which of the following is the funct $f^{-1}(x)$?*

A) $-4-\sqrt{x-6}$ B) $6+\sqrt{x-5}$ C) $6+\sqrt{x-3}$
D) $x-3$ E) $3+\sqrt{x-6}$

**40)** $f : R \to R^+$ **olmak üzere,**
$f : R \to R^+$ *including,*

$$f(x) = 4x^2 - 12x + a$$

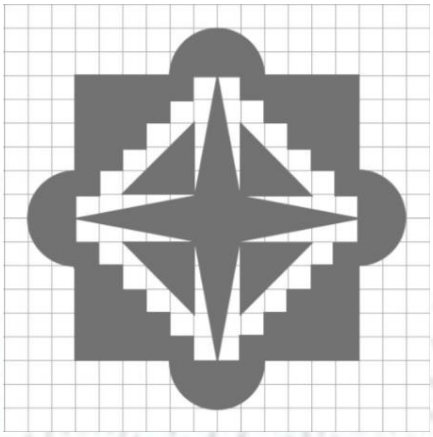
**olduğuna göre, a nın alabileceği en küçük tam sayı de- ğeri kaçtır?**
*what is the smallest integer value that a can take?*

A) 9 B) 10 C) 11 D) 12 E) 13

**41) Resimde bir bölme 1br uzunluğundadır.**

**Taralı kısmın alanını bulun (π = 3).**

*In the figure, one division is 1 cm long. Find the area of the shaded part (π = 3).*

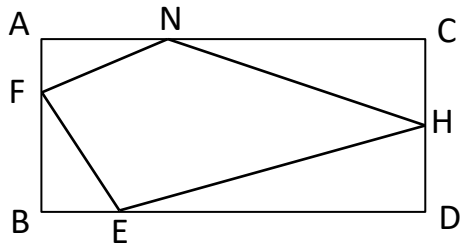


A) 122 B) 130 C) 124 D) 128 E) 126

**42)** **AF = 2 cm, CH = HD = 4 cm,**

**$AN = AF+CH$, $BE = \frac{AN}{2}$, $ED = AN+AF$**

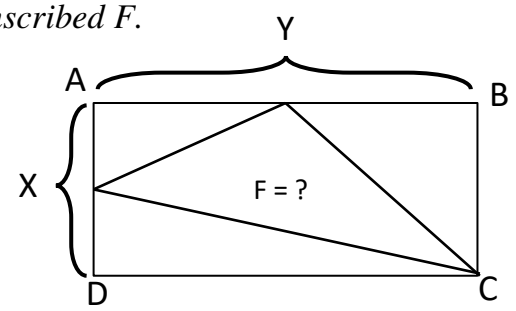
**$S_{FNHE}$ = ?**




A) 47 B) 42 C) 45 D) 46 E) 48

**44)** **ABCD dikdörtgeninde Y ve X sırasıyla AB ve AD kenarlarının orta noktalarıdır. AB = 2BC = 12 ise F yazılı üçgenin alanını bulun.**

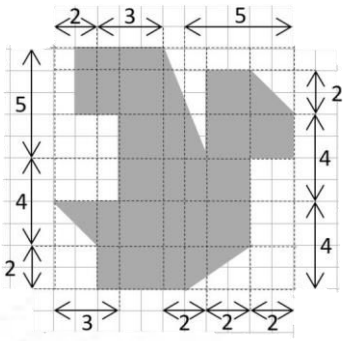
*In a rectangle ABCD, Y and X are the midpoints of the sides AB and AD respectively. If AB = 2BC = 12, find the area of the triangle inscribed F.*




A) 45 B) 27 C) 12 D) 24 E) 36

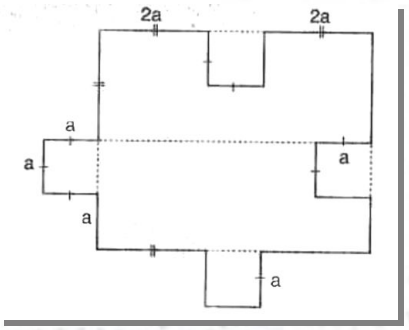
**43)** **Resimde bir bölme 1 cm uzunluğundadır. Taralı kısmın alanını bulun ($\pi = 3$)**

*In the figure, one division is 1 cm long. Find the area of the shaded part ($\pi = 3$)*




A) 73 B) 72 C) 75 D) 76 E) 74

**45)**

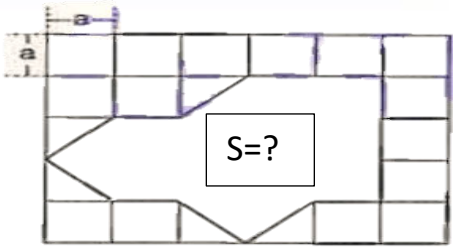



$\Longrightarrow$ Çevre (the perimeter) = ? a

A) 24 B) 26 C) 28 D) 30 E) 32

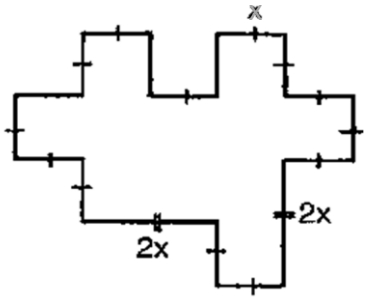
# EXAM-4

**46)**




A) 12 B) 12,5 C) 13 D) 13,5 E) 14

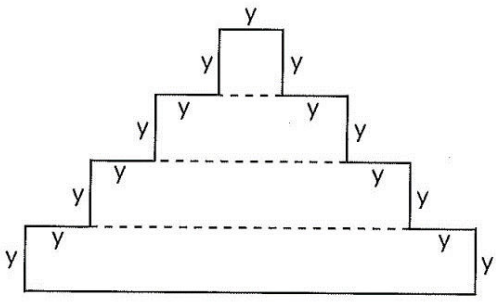
**47)**




⟹ **Çevre** (*the perimeter*) = ? x

A) 17 B) 18 C) 19 D) 20 E) 21

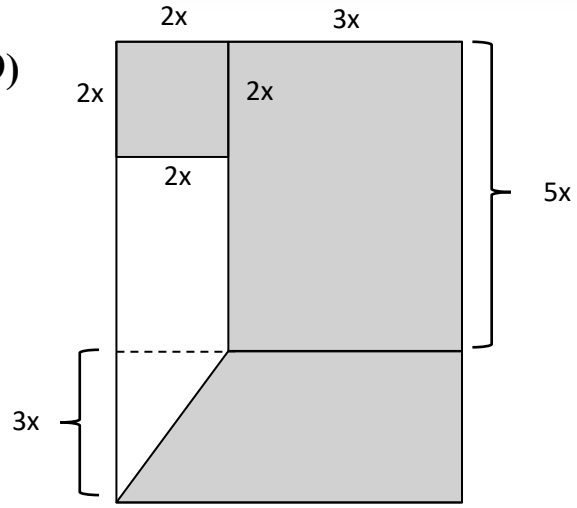
**48)**




⟹ **Çever**/*Perimeter*= ? y

A) 17 B) 19 C) 22 D) 27 E) 31

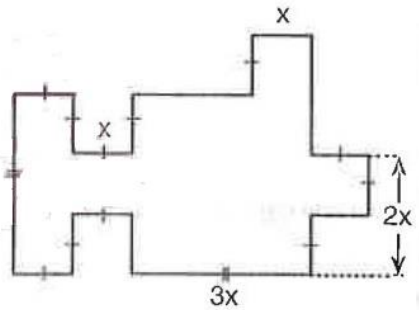
**49)**




⟹ **gölgeli alan** / *the shaded area* = ? $x^2$

A) 6 B) 19 C) 22 D) 31 E) 37

**50)**




⟹ **Çevre** *(the perimeter)* = ? x

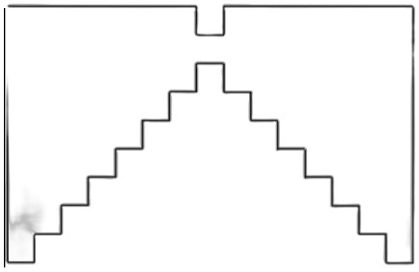
A) 21 B) 22 C) 23 D) 24 E) 25

**51) Şeklin çevresini hesaplayın**

**(1 çizgi = 1 cm)**

*Calculate the perimeter of the shape*

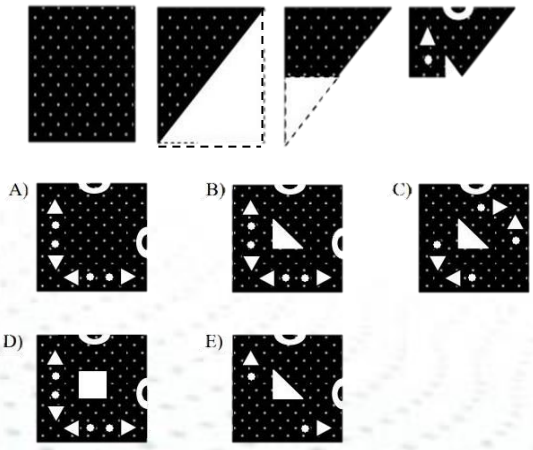
*(1 line = 1 cm)*



A) 29 B) 33 C) 66 D) 64 E) 128

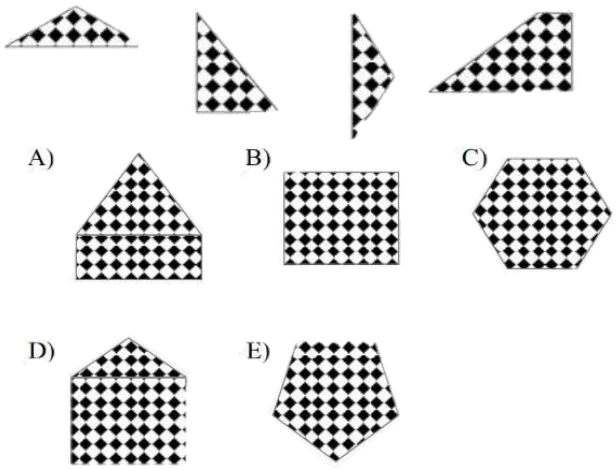
**52) Katlanmış renkli kağıt kesilir. Düşünce kağıdını açın ve uygun cevap seçeneğini seçin.**

*Folded colored paper is cut. Open the thought paper and choose the appropriate answer option.*



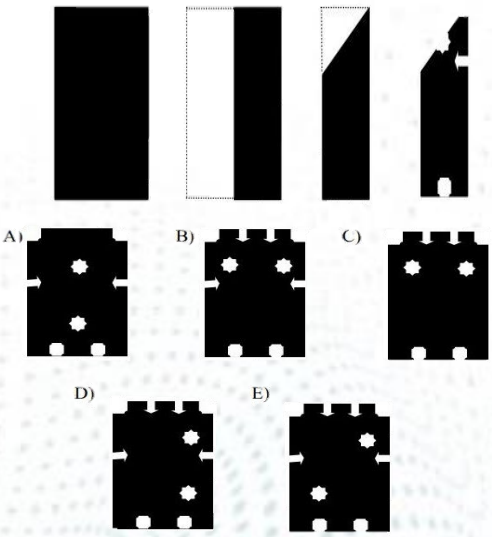

**53) Verilen parçalara göre elde edilen rakamı seçin**

*According to the given parts select the figure obtained from*



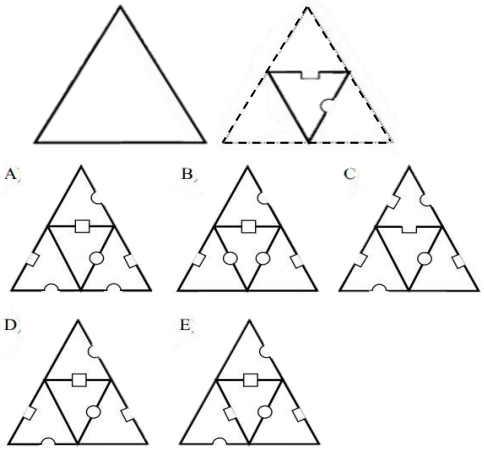

**54) Katlanmış renkli kağıt üzerinde kesimler yapıldı. Düşünce kağıdını açın ve uygun seçeneği seçin.**

*Cuts were made on folded colored paper. Open the thought paper and select the appropriate option.*



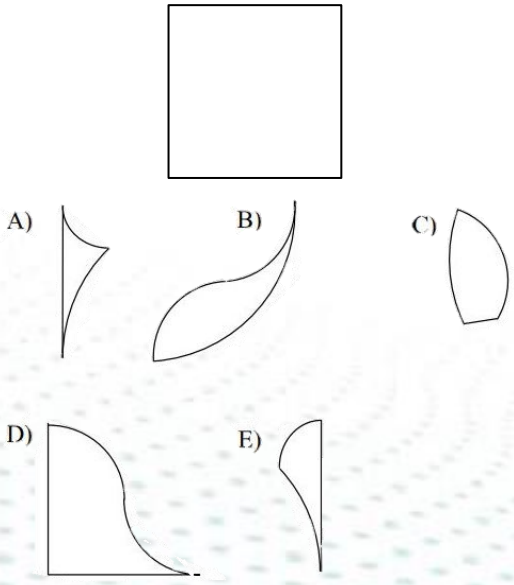
**55) Katlanmış renkli kağıt üzerinde kesimler yapıldı. Düşünce kağıdını açın ve uygun seçeneği seçin.**

*Cuts were made on folded colored paper. Open the thought paper and select the appropriate option.*



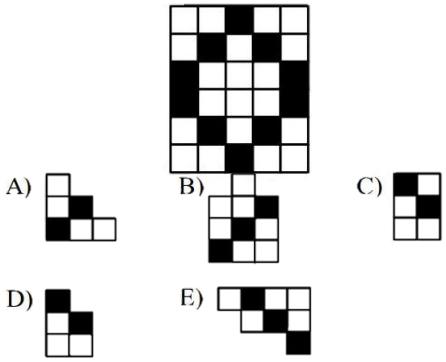

**56) Cevap seçeneklerindeki dört bölüm verilen dörtgen kombinasyondan elde edilir. Hangi kısım gereksiz?**

*Four of the parts in the answer options the given quadrilateral is obtained from the combination. Which part is redundant?*

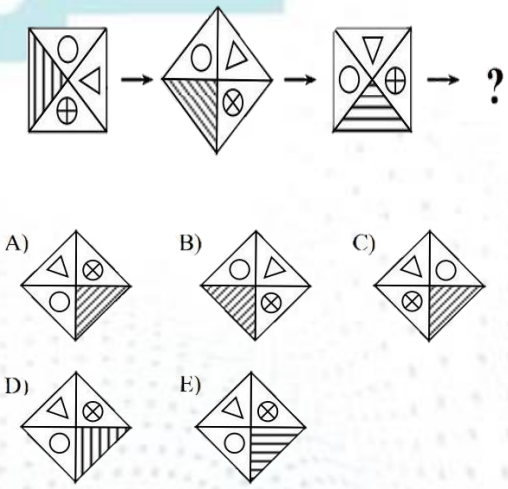



**57) Aşağıdaki şekil, aşağıdaki değişkenlerden dördünün birleşiminden elde edilmiştir (parçalar döndürülmemiştir). Hangi kısım gereksiz?**

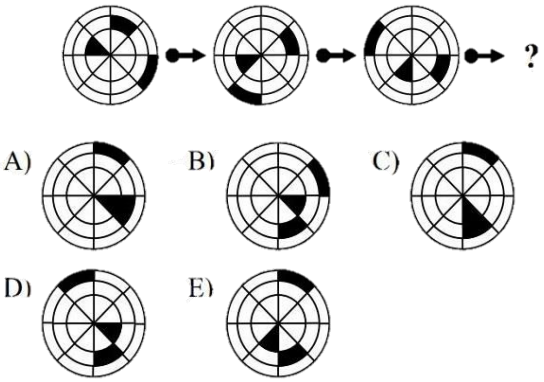
*The following figure is obtained from the combination of four of the following variants (the parts are not rotated). Which part is redundant?*




**58)**

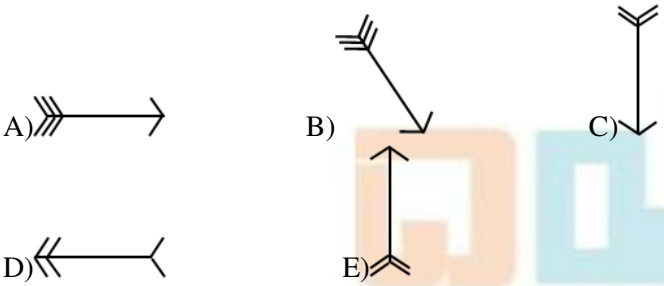


**59)**

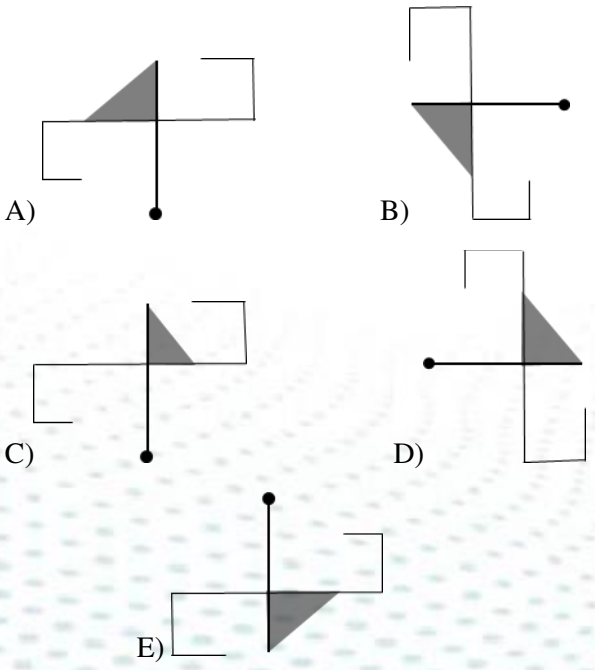



**60) Aşağıdaki sorulardaki (60 ve 61) farklı şekli bulun**

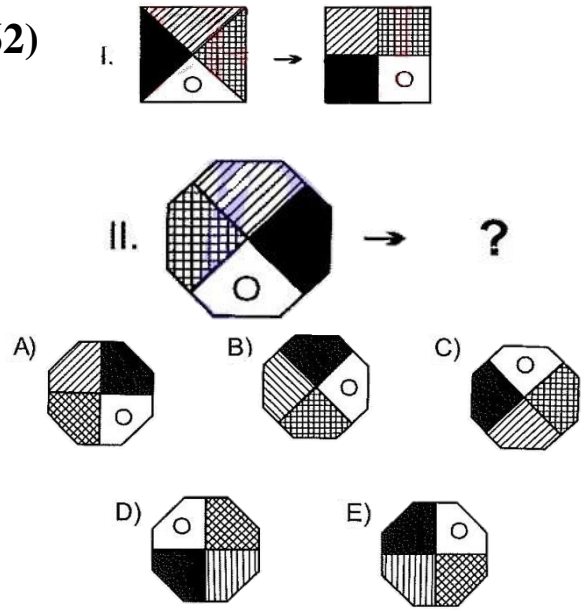
*Find the different figure in the following questions(60 & 61) below*



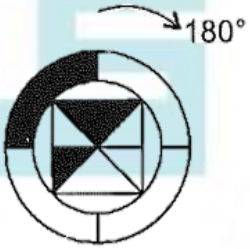

**61)**

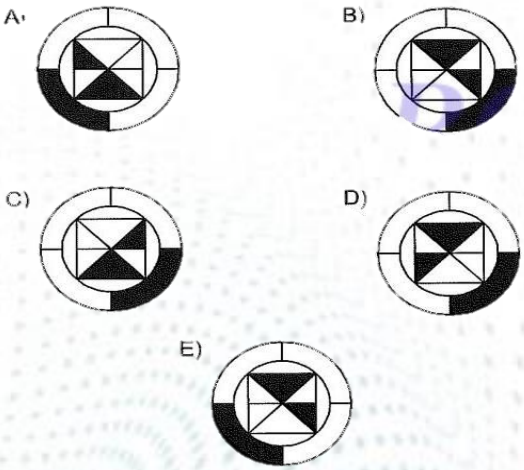



**62)**

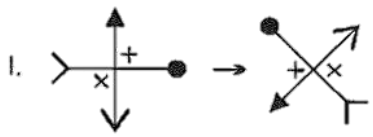


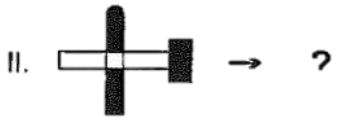

**63)**



**64)**




A)

B)

C)

D)

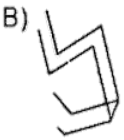
E)

**65) Farklı şekili bulun**

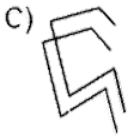
*Find the different figure*

A)

B)



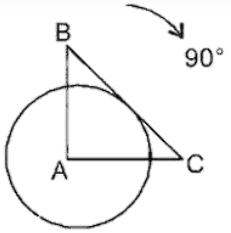
C)



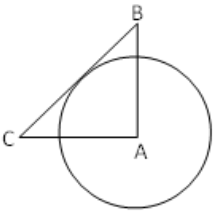
D)

E)

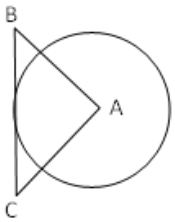
**66)**



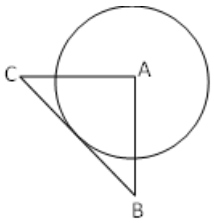

A)



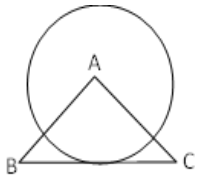

B)



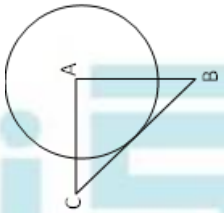

C)



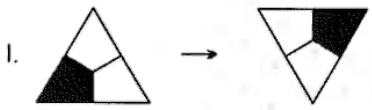

D)




E)




**67)**





A)

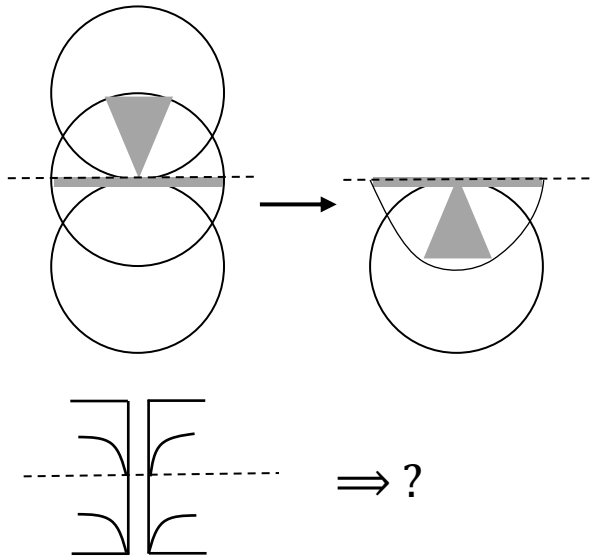
B)

C)

D)

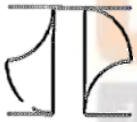
E)

**68)**

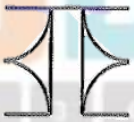



A)

B)



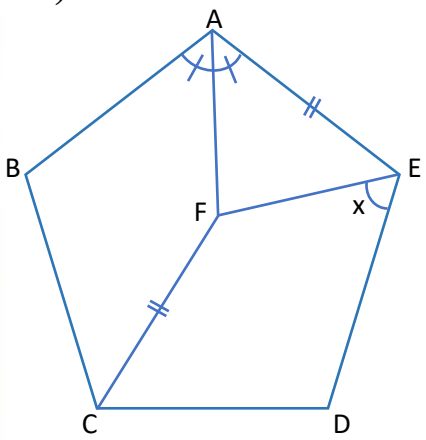
C)



D)

E)

**69)**




**ABCDE düzgün Beşgen**
*ABCDE regular pentagon*

$m(BAF) = m(FAE)$

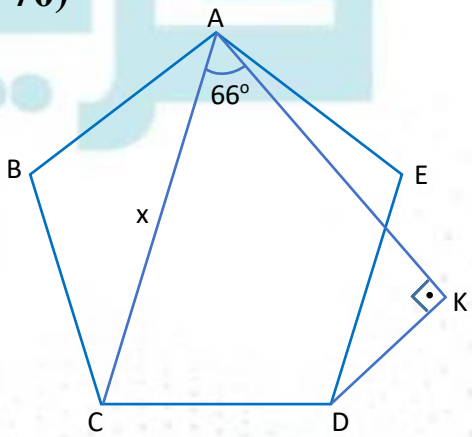
$|CF| = |AE|$

$m(FED) = x$

**Yukarıdaki verllere göre, x kaç derecedir?**
*According to the data above, how many degrees is x?*

A) 56 B) 64 C) 66 D) 70 E) 72

**70)**




**ABCDE düzgün Beşgen**
*ABCDE regular Pentagon*

$[AK] \perp [DK]$

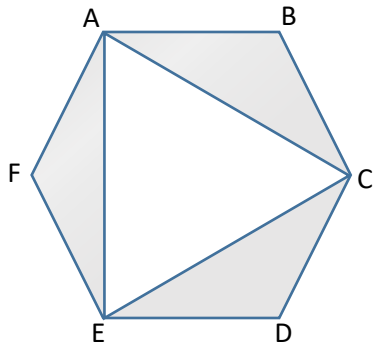
$m(CAK) = 66^\circ$

$|DK| = 6cm$

**Yukarıdaki verllere göre, x kaç derecedir?**
*According to the data above, how many cm is x?*

A) 12 B) $6\sqrt{3}$ C) $8\sqrt{2}$ D) 70 E) $6\sqrt{5}$

**71)**



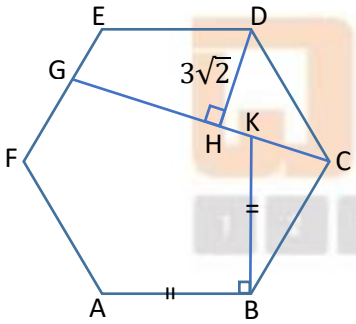

**ABCDEF bir düzgün altıgendir.**
*ABCDEF is a Regular hexagon.*

$Ç(AEC) = 18cm$

$\Rightarrow TA(SA) = ?cm^2$

A) $9\sqrt{3}$ B) $12\sqrt{3}$ C) $15\sqrt{3}$ D) $18\sqrt{3}$ E) $21\sqrt{3}$

**72)**




**ABCD düzgen altıgen,**

ABCD rectangular hexagon,

$[KB] \perp [AB]$

$[DH] \perp [GC]$

$|AB| = |BK|$

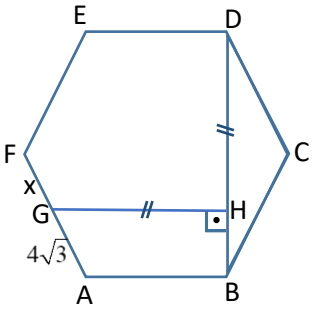
$|DH| = 3\sqrt{2}\,cm$

**Yukarıdaki verilere göre, $|AB|$ kaç cm dir?**

According to the above data, |AB| how many cm is it?

A) $2\sqrt{6}$ B) 5 C) $2\sqrt{7}$ D) $4\sqrt{2}$ E) 6

**73)**




**ABCDEF düzgün altıgen.**
*ABCDEF is a Regular hexagon.*

$[GH] \perp [BD]$

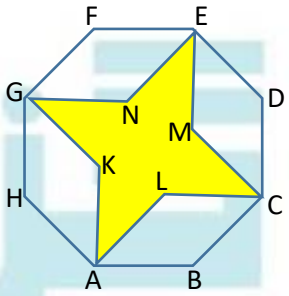
$|GH| = |DH|$

$|AG| = 4\sqrt{3}cm$

**Yukarıdaki verllere göre,|FG|= x kaç cm dir?**
*According to the data above, how many cm is x?*

A) $2+\sqrt{3}$ B) $3+\sqrt{3}$ C) 6 D) 4 E) $3\sqrt{3}$

**74)**

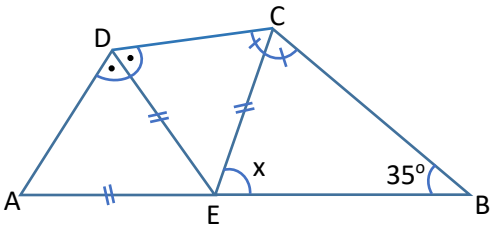



**ABCDEFGH düzgün sekizgen**
*ABCDEFGH is a Regular Octagon.*
***ABCL, CDEM, GNEF ve HAKG eşkenar dörtgen***
*ABCL, CDEM, GNEF and HAKG rhombus*

**Düzgün sekizgenin çevresi $16\sqrt{2}cm$ olduğuna göre, taralı bölgenin alanı kaç $cm^2$ dir?**
*If the perimeter of the regular octagon is $16\sqrt{2}cm$, what is the area of the shaded region in $cm^2$?*

A) $16\sqrt{2}$ B) $8+8\sqrt{2}$ C) $8\sqrt{2}$ D) 16 E) 8

**75)**




**ABCD dörtgen, [CE] ve [DE] açıortay,**

*ABCD is a quadrilateral, [CE] and [DE] are bisector,*

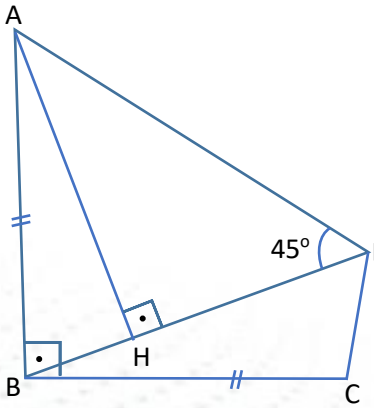
$$|AE| = |DE| = |CE|, m(ABC) = 35^\circ$$

**Yukarıdaki verllere göre,** $m(CEB) = x$ **kaç derecedir?**

*According to the above data, how many degrees is* $m(CEB) = x$ *?*

A) 60 B) 65 C) 70 D) 75 E) 80

**76)**




**ABCD dörtgen**

*ABCD quadrilateral*

$[AB] \perp [BC]$

$[AH] \perp [BD]$

$m(ADB) = 45^\circ$

$|AB| = |BC|$

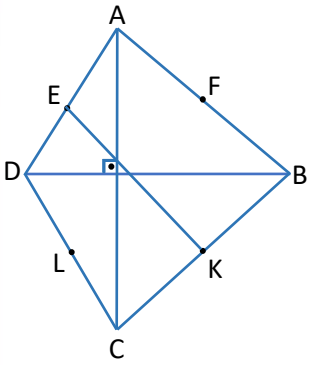
$|BD| = 12cm$

**Yukarıdaki verilere göre, Alan(ABCD) kaç** $cm^2$**dir?**

According to the data above, how many $cm^2$ is Area(ABCD)?

A) 60 B) 72 C) 80 D) 84 E) 96

**77)**




**E,F,K ve L noktaları bulundukları kenarların orta noktalarıdır.**

*Point E,F,K and L are mid-points of the sides at which they are.*

$[AC] \perp [DB]$

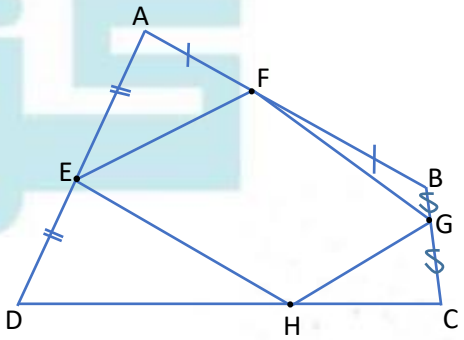
$|AC| = 16cm,$

$|BD| = 12cm$

$\Rightarrow |EK| = ?cm$

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

**78)**



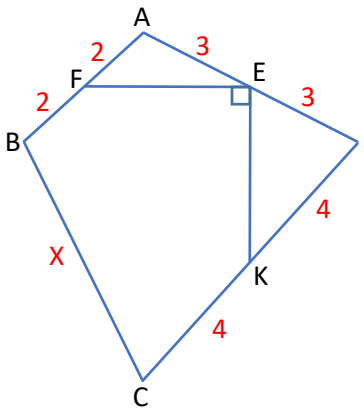

$|AE| = |ED|, |DH| = |HC|, |CG| = |GB|, |AF| = |FB|,$

$A(AEF) = 5cm^o, A(HCG) = 4cm^o$

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

A) 9 B) 12 C) 18 D) 27 E) 36

**79)**




ABCD dörtgen

$[EF] \perp [EK]$

$|AE| = |ED| = 3\ cm$

$|DK| = |KC| = 4\ cm$

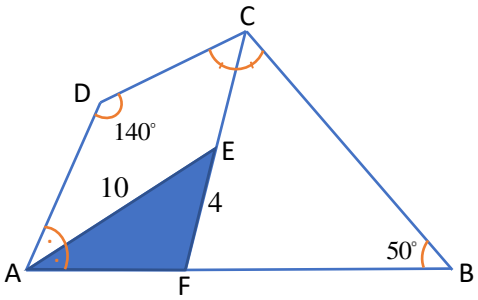
$|AF| = |FB| = 2\ cm$

**Yukarıdaki verilere göre, $|BC| = X$ kaç cm dir?**

According to the data above, how many cm is |BC|=X?

A)$2\sqrt{11}$ B)$2\sqrt{10}$ C)6 D)$\sqrt{30}$ E)5

**80)**




**ABCD dörtgen, $[AE]$ ve $[CF]$ açıortay,**

ABCD quadrilateral, [AE] and [CF] bisector

$m(A\hat{D}C) = 140^\circ$, $m(A\hat{B}C) = 50^\circ$, $|AE| = 10cm$, $|EF| = 4cm$

**Yukarıdaki verilere göre, Alan(EAF) kaç $cm^2$ dir?**

According to the data above, how many $cm^2$ is the Area (EAF)?

A)10 B)$8\sqrt{2}$ C)12 D)$10\sqrt{2}$ E)$10\sqrt{3}$


گزینه ۵، با همراهی اساتید به نام آزمون یوس ایران تشکیل شد. ما همه مولفین و اعضای تیم گزینه ۵ کنار شما هستیم تا یک جامعه آماری بزرگ با برنامه ریزی اصولی و هدفمند پله پله باعث ارتقای آموزش شما در آزمون یوس باشیم.

برای رسیدن به این هدف بسیار مصمم هستیم. به امید دیدن موفقیت تک تک شما عزیزان.