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همراه شما
در مسیر یوس

سوالات یوس ۲۰۱۹
دانشگاه اینونو

Inonu University

INTERNATIONAL STUDENTS' EXAM

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۰۲۱۹۱۳۰۵۹۰۵
uniland_yos

1. $\left(\frac{1}{2}-\frac{2}{3}\right)-\left[\left(2:\frac{1}{4}\right)\frac{1}{4}-\frac{5}{6}\right]=?$

A) $-\frac{4}{3}$ B) $-\frac{3}{4}$ C) $-\frac{1}{6}$

D) $\frac{1}{6}$ E) $\frac{3}{4}$

2. $\frac{\sqrt{0,98}+\sqrt{1,62}+\sqrt{0,72}}{\sqrt{2,42}}=?$

A) $3\sqrt{2}$ B) $2\sqrt{2}$ C) 2

D) $\frac{3}{2}$ E) $\sqrt{2}$

3. $\frac{\sqrt[3]{(-6)^3}-\sqrt{(-3)^2}}{\sqrt[3]{(-3)^2\sqrt{(-3)^2}}}=?$

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

4. $\left(\frac{1-2^{-2}+(1-2^{-1})2^{-1}}{(2^{-1}-1)^{-1}+2^2}\right)^{-1}=?$

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

5. $1,\overline{3}-0,\overline{6}=?$

A) $0,7\overline{6}$ B) $0,\overline{7}$ C) $0,6\overline{7}$

D) $0,\overline{67}$ E) $0,\overline{6}$

6. $(100)_5+(310)_5=(1002)_4+(2ab)_4$

$\Rightarrow \quad a+b=?$

A) 1 B) 3 C) 4 D) 5 E) 6

7. $\dfrac{4}{1+\dfrac{15}{1+\frac{4}{x-6}}} = -1 \implies x = ?$

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

8. $\left.\begin{array}{l} \dfrac{a+2b}{b} = \dfrac{7}{3} \\ \dfrac{a-2c}{c} = \dfrac{1}{3} \end{array}\right\} \implies \dfrac{a+c}{b-a} = ?$

A) $-\frac{18}{7}$ B) $-\frac{1}{3}$ C) $\frac{5}{7}$ D) $\frac{13}{5}$ E) $\frac{20}{7}$

9. $\dfrac{1+\sqrt{3}}{\sqrt{5}-\sqrt{3}} = a \implies \dfrac{\sqrt{3}+\sqrt{5}}{\sqrt{3}-1} = ?$

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

10. $\sqrt{\dfrac{10}{9} - \sqrt{\dfrac{10}{9} - \sqrt{\dfrac{10}{9} - \cdots}}} = ?$

A) $\frac{5}{3}$ B) $\frac{3}{2}$ C) $\frac{10}{9}$ D) $\frac{2}{3}$ E) $\frac{9}{10}$

11. $\dfrac{(2n+1)!}{(2n-1)!} = 420 \implies n = ?$

A) 6 B) 8 C) 9 D) 10 E) 12

12. $x^2 - 6x + 5 < 0 \implies \dfrac{\left||x(x-1)| - |x^2+x-2|\right|}{2x^2-3x+1} = ?$

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

13. $\dfrac{3x-2}{\sqrt{3}-\sqrt{2}} = \sqrt{5+2\sqrt{6}} \implies x = ?$

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

14. $f(x,y) = 2x^y - 3y^x \implies f(f(3,1),2) = ?$

A) -9 B) -6 C) 0 D) 6 E) 9

15. $\left.\begin{array}{l} A = \{x : x \in \mathbb{R}, |x-1| \geq 3\} \\ B = \{y : y \in \mathbb{R}, |y+1| \leq 3\} \end{array}\right\} \Rightarrow A \cap B = ?$

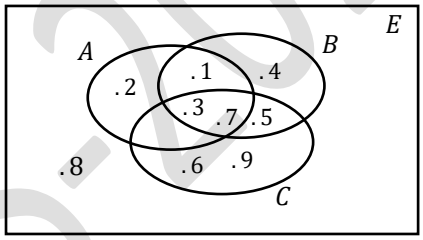
A) $[-4,-2]$ B) $[-4,-1]$ C) $[-4,0]$

D) $[-4,-2] \cup [4,6]$ E) $[-4,6]$

16. $\left.\begin{array}{l} A = \{-1,0,2,4\} \\ B \cup C = \{-2,-1,2,3,5\} \end{array}\right\} \implies (A \setminus B) \setminus C = ?$

A) $\{0\}$ B) {-1,4} C) {0,4} D) {2,4} E) {-1,2}

17.



$(A \cup B) \setminus (B \cap C) = ?$

A) $\{1,2,3,7\}$ B) $\{1,2,4,5\}$ C) $\{3,7,5\}$

D) $\{1,2,3,4,7\}$ E) $\{1,2,4\}$

18. $\left.\begin{array}{c} P(2x-1) = 2x^3 - 2x^2 + 3x + 4 \\ P(x-1) = (x+2)B(x) + K \\ K \in \mathbb{R} \end{array}\right\} \Rightarrow K = ?$

A) -26 B) -3 C) 4 D) 7 E) 18

19. $\dfrac{\sin 23^\circ \cos 37^\circ + \sin 37^\circ \cos 23^\circ}{\cos 23^\circ \cos 37^\circ - \sin 23^\circ \sin 37^\circ} = ?$

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

20. $\tan(\frac{\pi}{2} + \frac{3\pi}{4}) - \cot\left(\frac{13\pi}{4}\right) = ?$

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

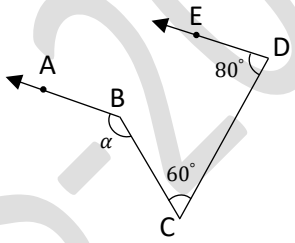
21. $z = \dfrac{1-\sqrt{7}\,i}{\sqrt{3}-i} \implies |z^4| = ?$

A) $\sqrt{2}$ B) 2 C) 4 D) 8 E) 16

22. $\left.\begin{matrix} log_3 2 = a \\ log_9 5 = b \end{matrix}\right\} \implies log_6 40 = ?$

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

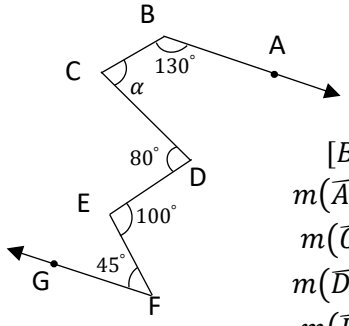
23.



$$\left.\begin{matrix} [BA \,//\, [DE \\ m(\widehat{BCD}) = 60^\circ \\ m(\widehat{CDE}) = 80^\circ \end{matrix}\right\} \implies \alpha = ?$$

A) 110° B) 120° C) 140° D) 160° E) 220°

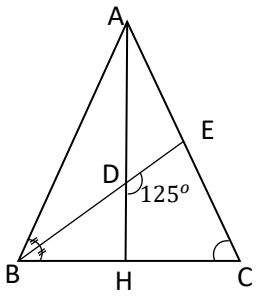
24.



$$\left.\begin{matrix} [BA \,//\, [FG \\ m(\widehat{ABC}) = 130^\circ \\ m(\widehat{CDE}) = 80^\circ \\ m(\widehat{DEF}) = 100^\circ \\ m(\widehat{EFG}) = 45^\circ \\ m(\widehat{BCD}) = \alpha \end{matrix}\right\} \implies \alpha = ?$$

A) 60° B) 65° C) 70° D) 75° E) 80°

25.

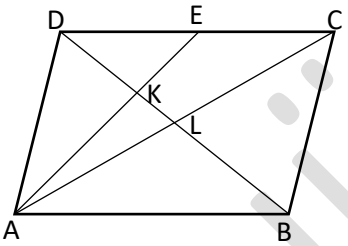


$$\left.\begin{array}{c} |AB| = |AC| \\ |BH| = |HC| \\ m(\widehat{ABD}) = m(\widehat{DBH}) \\ m(\widehat{EDH}) = 125^\circ \end{array}\right\}$$

$$\Longrightarrow m(\widehat{ECH}) = ?$$

A) 35° B) 45° C) 56° D) 60° E) 70°

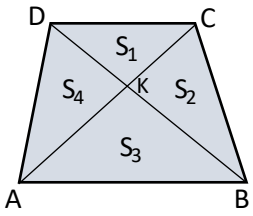
26.



$$\left.\begin{array}{c} [AB] // [DC], [AD] // [BC] \\ [BD] \cap [AE] = \{K\} \\ [BD] \cap [AC] = \{L\} \\ |DE| = |EC|, |DK| = 4cm \end{array}\right\} \Longrightarrow |LB| = ?\, cm$$

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

27.

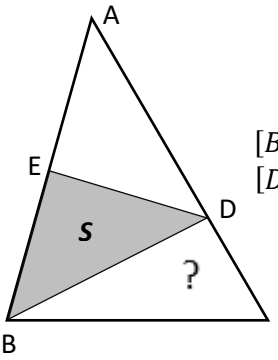


$$\left.\begin{array}{c} [AB] // [DC] \\ [AC] \cap [DB] = \{K\} \\ 2|AB| = 5|DC| \end{array}\right\}$$

$$\Longrightarrow \frac{A(DKC)}{A(ABCD)} = \frac{S_1}{S_1 + S_2 + S_3 + S_4} = ?$$

A) $\frac{2}{25}$ B) $\frac{4}{25}$ C) $\frac{2}{49}$ D) $\frac{4}{49}$ E) $\frac{5}{49}$

28.



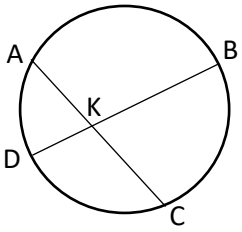
$$\left.\begin{array}{c} |AD| = 2|DC| \\ |AE| = |EB| \\ [BD] \cap [AC] = \{D\} \\ [DE] \cap [AB] = \{E\} \\ A(EBD) = \boldsymbol{S} \end{array}\right\}$$

$$\Longrightarrow A(DBC) = ?$$

A) $\boldsymbol{S}$ B) $\frac{1}{2}\boldsymbol{S}$ C) $\frac{2}{3}\boldsymbol{S}$

D) $\frac{4}{3}\boldsymbol{S}$ E) $\frac{3}{2}\boldsymbol{S}$

29.

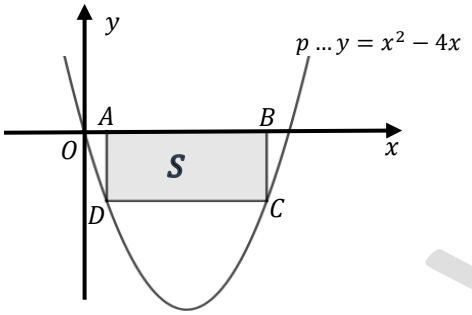


$$\left.\begin{array}{l}[AC] \cap [DB] = \{K\} \\ m(\widehat{DKC}) = 105^\circ \\ m(\widehat{AD}) = 70^\circ \end{array}\right\} \Rightarrow m(\widehat{BC}) = ?$$

A) 70° B) 80° C) 100°

D) 110° E) 120°

30.



$$\left.\begin{array}{l}[AB] \,//\, [DC] \\ [AD] \,//\, [BC] \\ [AD] \perp [AB] \\ |AB| = 2|AD| \\ [DC] \cap p = \{C, D\} \\ [AB] \in Ox \end{array}\right\} \Rightarrow A(ABCD) = \boldsymbol{S} = ?$$

A) $9 - \sqrt{17}$ B) $9 - \sqrt{5}$ C) 9

D) $9 + \sqrt{5}$ E) $9 + \sqrt{17}$

31. $A_k = \{(x, y): x, y \in \mathbb{R}, y = x + k\}, (k \in \mathbb{R})$

$B = \{(x, y): x, y \in \mathbb{R},\ x^2 + y^2 - 2x - 2y = 16\}$

$A_k \cap B \neq \emptyset \Rightarrow k = ?$

A) $k \in [-5,5]$ B) $k \in [-5,4]$ C) $k \in [-6,4]$

D) $k \in [-4,4]$ E) $k \in [-6,6]$

32.

$$\left.\begin{array}{l}a_1 = 4, \\ a_n = 2^n a_{n+1}, \\ n \in \mathbb{N} = \{1,2,3,4, \dots\}\end{array}\right\} \Rightarrow a_{20} = ?$$

A) 2^{-200} B) 2^{-188} C) 2^{-100}

D) 2^{100} E) 2^{200}

33. $\lim\limits_{x \to 0} \dfrac{\tan x}{3x^2 - x} = ?$

A) -1 B) 0 C) 1 D) 2 E) ∞

34. $f(x) = \sin(x^2 + 2x) \Rightarrow f'(0) = ?$

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

35. $\left.\begin{matrix} x = 2\ln t - 1 \\ y = e^{2t} - t^2 \end{matrix}\right\} \Rightarrow \frac{dy}{dx} = ?$

A) $\frac{e^{2t}-2t}{2\ln t}$ B) $te^{2t} - t^2$ C) $-\frac{e^{2t}-2t}{t}$

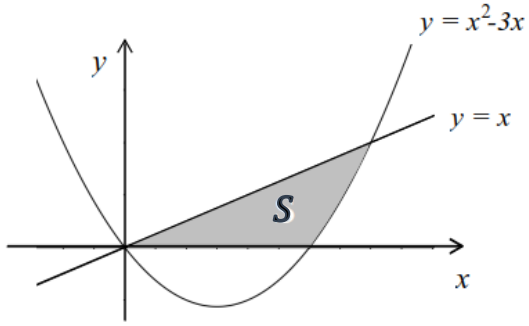
D) $2\ln t(e^{2t} - t)$ E) $-\frac{te^{2t}-t^2}{2t}$

36. $\int_e^{e^2} \ln(ex)\, dx = ?$

A) 1 B) e C) $e(2e-1)$

D) $2e(1-e)$ E) $e^2 + e$

37.



$S = ?$

A) $\frac{32}{9}$ B) $\frac{17}{3}$ C) $\frac{37}{7}$ D) $\frac{37}{6}$ E) 8

38. $\int_1^2 xe^x dx = ?$

A) 0 B) 1 C) e D) $2e^2 - 3e$ E) e^2

39. $A = \begin{bmatrix} 0 & -1 \\ 1 & -1 \end{bmatrix} \Rightarrow A - A^{-1} = ?$

A) $\begin{bmatrix} -2 & 1 \\ -1 & -2 \end{bmatrix}$ B) $\begin{bmatrix} 0 & 1 \\ -2 & 1 \end{bmatrix}$ C) $\begin{bmatrix} 2 & -1 \\ -1 & -2 \end{bmatrix}$

D) $\begin{bmatrix} 1 & -2 \\ 2 & -1 \end{bmatrix}$ E) $\begin{bmatrix} 1 & -2 \\ -2 & -1 \end{bmatrix}$

40. $A = \begin{bmatrix} -1 & 0 & 0 \\ 0 & 2 & 0 \\ 1 & 2 & -1 \end{bmatrix} \Rightarrow 2A^2 = ?$

A) $\begin{bmatrix} 2 & 0 & 0 \\ 0 & 4 & 0 \\ 4 & -2 & 2 \end{bmatrix}$ B) $\begin{bmatrix} 2 & 0 & 0 \\ 0 & 8 & 0 \\ -4 & 2 & 2 \end{bmatrix}$

C) $\begin{bmatrix} 2 & 0 & 0 \\ 0 & 8 & 0 \\ -4 & 4 & 2 \end{bmatrix}$ D) $\begin{bmatrix} 2 & 0 & 0 \\ 0 & 8 & 0 \\ -4 & -4 & 2 \end{bmatrix}$

E) $\begin{bmatrix} 2 & 0 & 0 \\ 0 & 8 & 0 \\ 4 & -4 & 2 \end{bmatrix}$

1.

I.	324	⟶	1
II.	752	⟶	10
III.	641	⟶	9
IV.	483	⟶	9
V.	310	⟶	4
VI.	384	⟶	?

A) 6 B) 7 C) 9 D) 11 E) 13

2.

I.	344	⟶	13
II.	752	⟶	3
III.	645	⟶	14
IV.	481	⟶	4
V.	384	⟶	29
VI.	483	⟶	?

A) 5 B) 9 C) 12 D) 20 E) 21

3.

I.	2361	⟶	16
II.	2754	⟶	21
III.	3647	⟶	25
IV.	4481	⟶	37
V.	5183	⟶	44
VI.	6876	⟶	?

A) 51 B) 55 C) 56 D) 59 E) 60

4.

645271	⟶	516472
764538	⟶	487635
301986	⟶	163089
587532	⟶	?

A) 725853 B) 758235 C) 857352

D) 527835 E) 725835

5.

4	✽	2	=	18
5	✽	3	=	28
6	✽	2	=	38
8	✽	4	=	68
9	✽	3	=	?

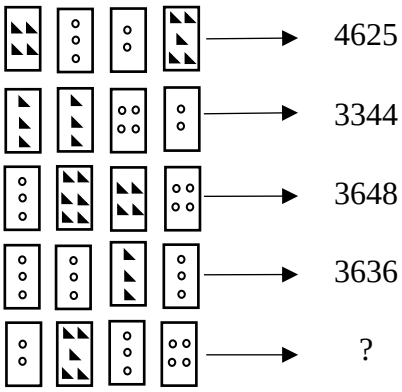
A) 77 B) 78 C) 83 D) 84 E)98

6.

7	△	2	=	45
6	△	5	=	11
8	△	4	=	48
7	△	5	=	24
9	△	6	=	?

A)16 B)27 C)34 D)45 E)52

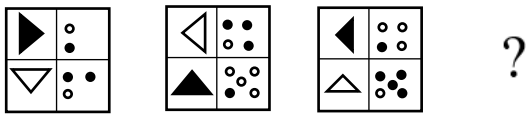
7.

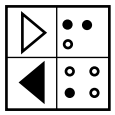


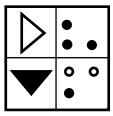
A) 2538 B) 2534 C) 2564

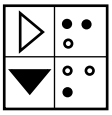
D) 4538 E) 4534

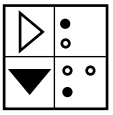
8.

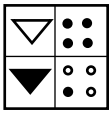


A) 

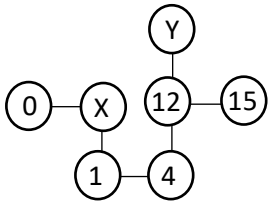
B) 

C) 

D) 

E) 

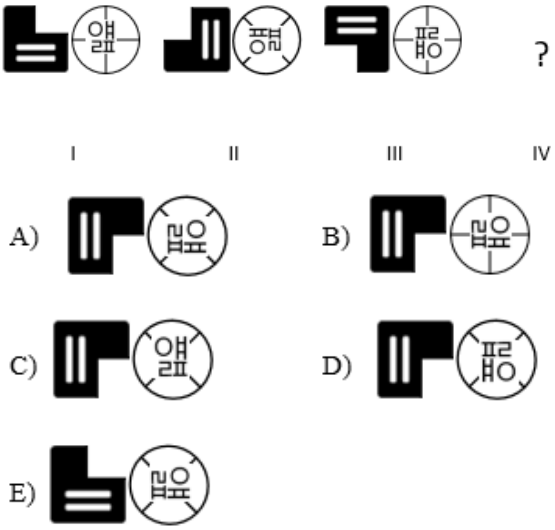
9.



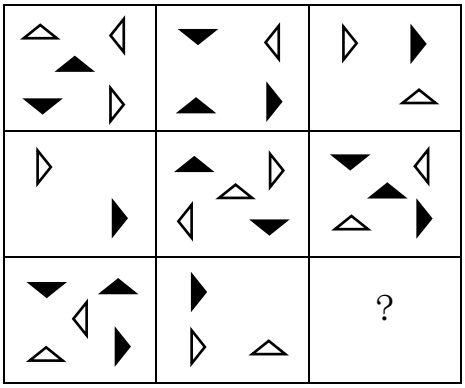
$\Rightarrow \frac{Y}{X} = ?$

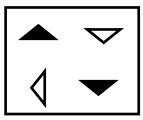
A) 3 B) 6 C) 8 D) 9 E) 12

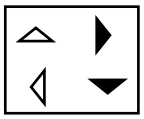
10.

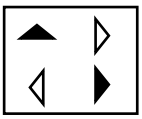


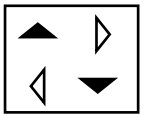
11.

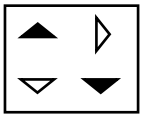


A) 

B) 

C) 

D) 

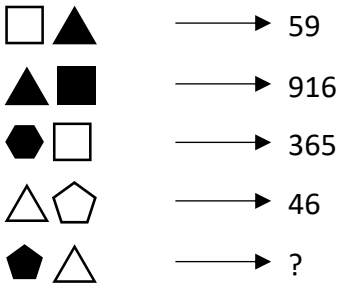
E) 

12. 4, 6, 11, 13, 18, X, 25, 27 …

X=?

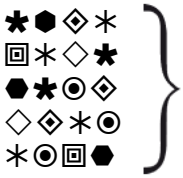
A) 19 B) 20 C) 21 D) 22 E) 23

13.



A) 54 B) 59 C) 64 D) 253 E)254

14.



2874 4358 3465 8623 7586

◈◇⦿✳=?

A) 5748 B) 5768 C) 6458

D) 6754 E) 7685

15.

5268
8536
6893
2379

□▲△▶
◇△▼◎
▲◇▶□
▶□◎△

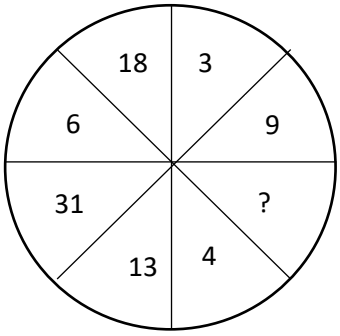
◎△□▶ = **?**

A) 9867 B) 6729 C) 8635

D) 9387 E) 9386

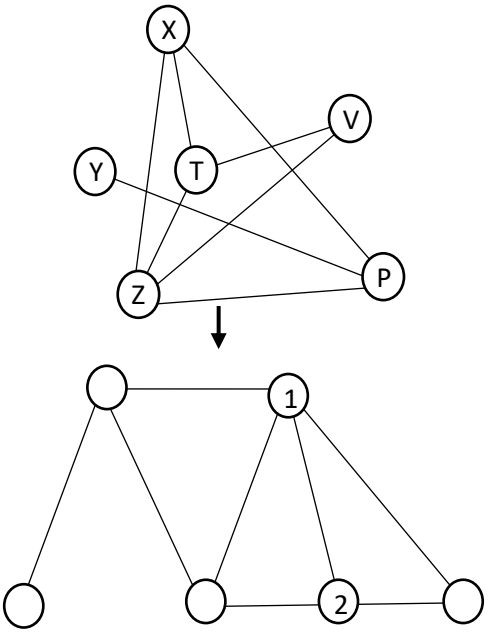
,

16.



A) 10 B) 17 C) 24 D) 28 E) 42

17.



(1,2)=?

A) (T,P) B) (T,X) C) (Z,P) D) (Z,T) E) (Z,X)

18. 2, 6, 4, 7, 11, 9, 12, 16, X, 17, 21, …

X=?

A) 13 B) 14 C) 15 D) 17 E) 18

19.

3	4	1	6
2	8	6	4
4	3	2	5
X	9	5	5

X = ?

A) 1 B) 2 C) 3 D) 5 E) 6

20.

ROKA 5653

LALE 3426

ELMA 4643

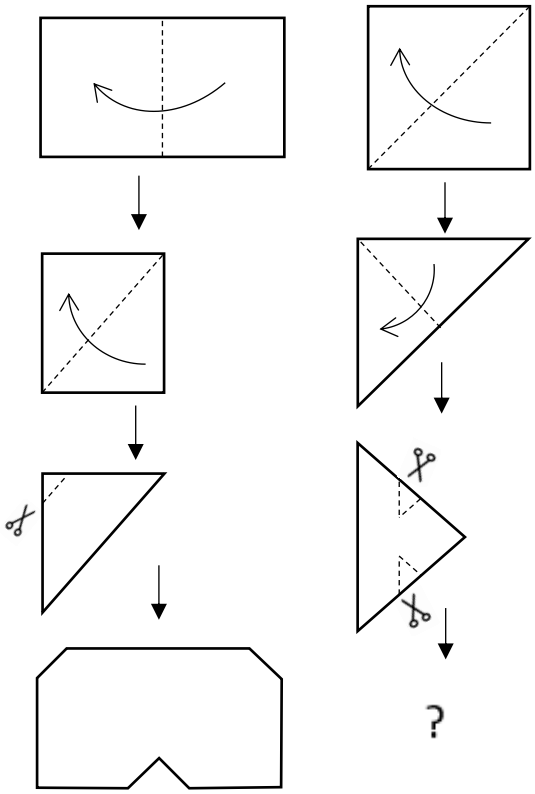
NANE 7816

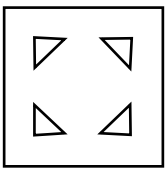
KARAMEL=?

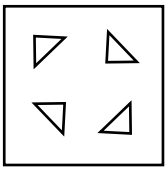
A) 1373264 B) 1676534 C) 1676234

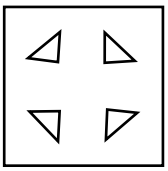
D) 8373264 E) 1373564

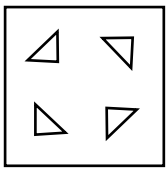
21.

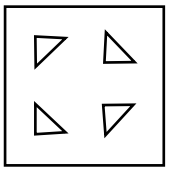


A) 

B) 

C) 

D) 

E) 

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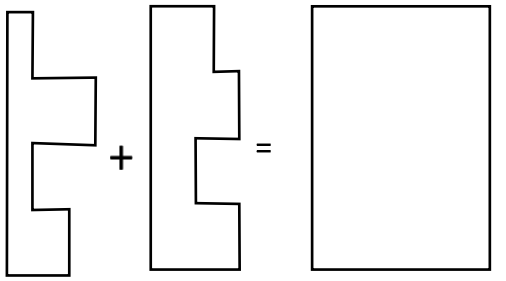
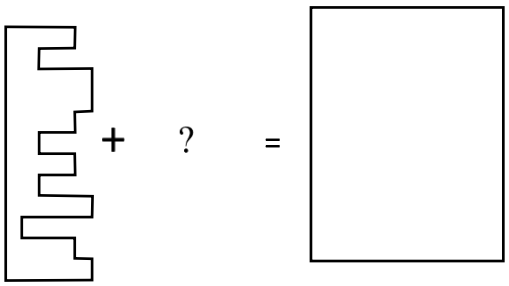
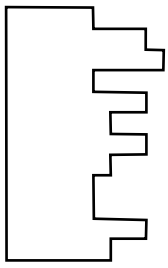
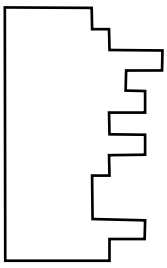
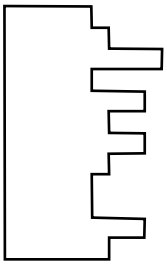
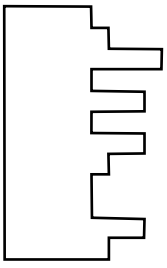


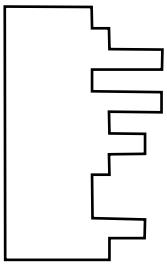


A) 

B) 

C) 

D) 

E) 

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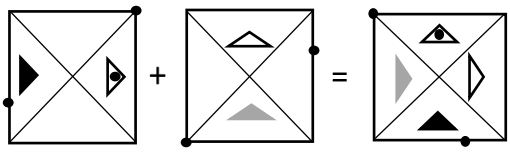
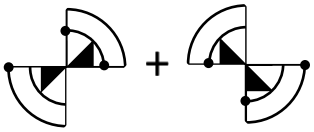
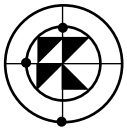




A) 

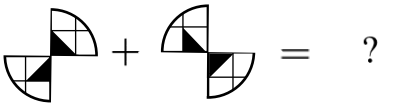
B) 

C) 

D) 

E) 

24.



A) 

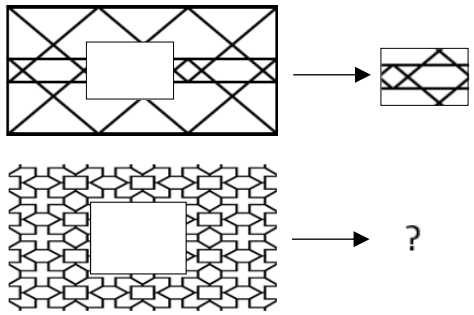
B) 

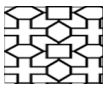
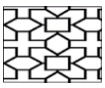
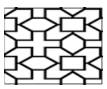
C) 

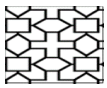
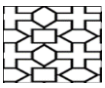
D) 

E) 

25.



A)  B)  C) 

D)  E) 

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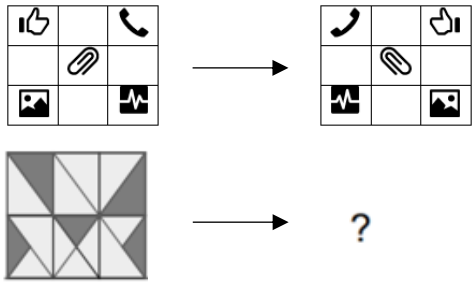
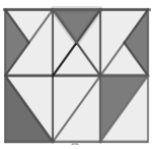
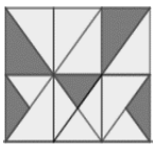
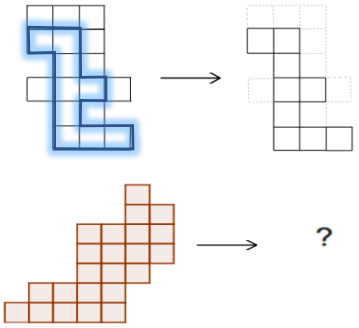
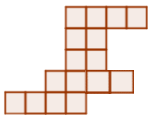
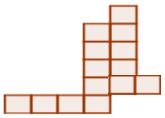


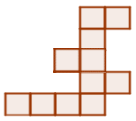
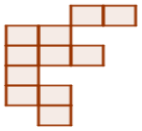
A)  B)  C) 

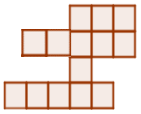
D)  E) 

27.



A)  B) 

C)  D) 

E) 

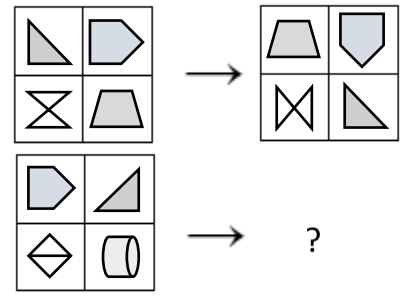
28.

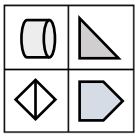
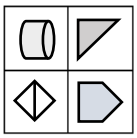
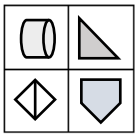
4	3	3	5
1	8	3	6
7	5	2	7
X	8	4	9

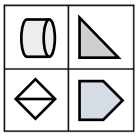
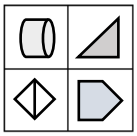
X = ?

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

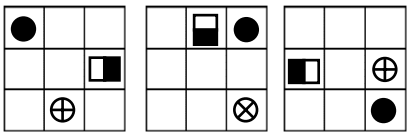
29.

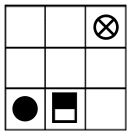
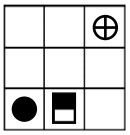


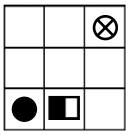
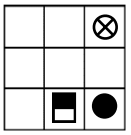
A)  B)  C) 

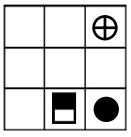
D)  E) 

30.

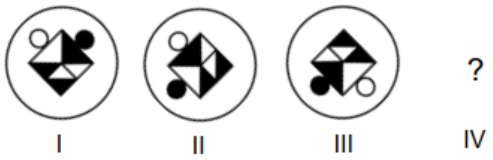


A)  B) 

C)  D) 

E) 

31.

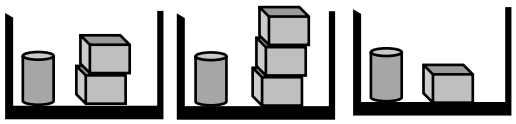


A)  B) 

C)  D) 

E) 

32.



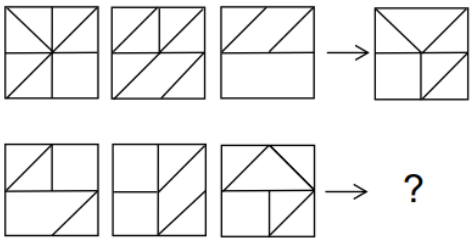
$a\ kg$ $b\ kg$ $x\ kg$

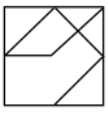
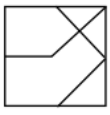
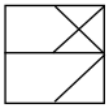
$x =?$

A) $a - b$ B) $\frac{a}{2}$ C) $2a - b$

D) $8a - 5b$ E) $\frac{a+2b}{8}$

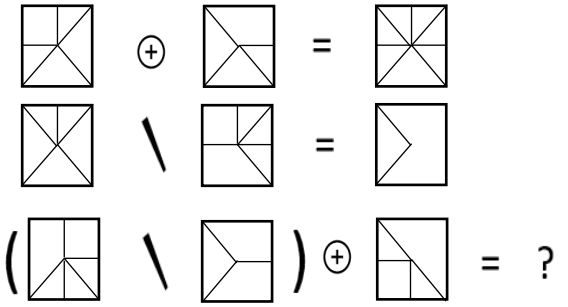
33.



A)  B)  C) 

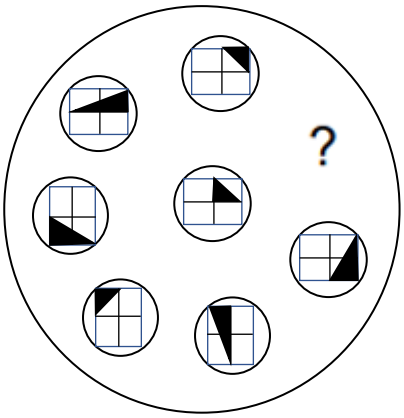
D)  E) 

34.



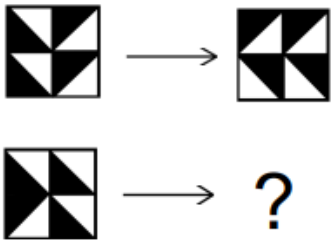
A) 
B) 
C) 
D) 
E) 

35.



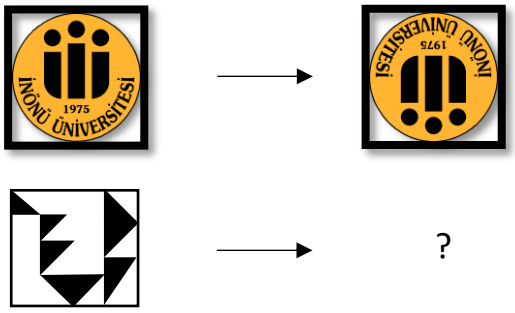
A) 
B) 
C) 
D) 
E) 

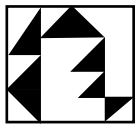
36.



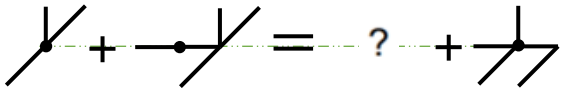
A) 
B) 
C) 
D) 
E) 

37.



A) 
B) 
C) 
D) 
E) 

38.



A) 

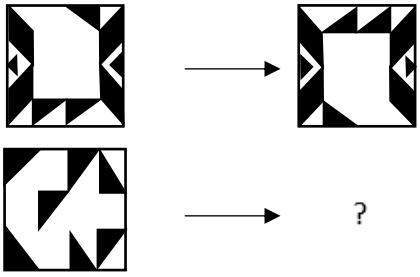
B) 

C) 

D) 

E) 

39.



A) 

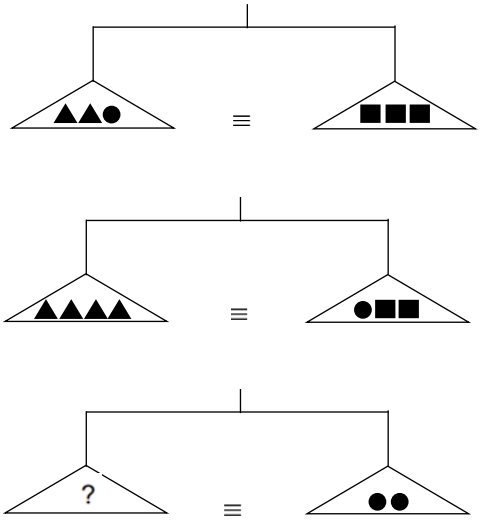
B) 

C) 

D) 

E) 

40.



A)▲▲■

B)▲▲▲

C)▲▲■■

D)▲▲▲■

E)▲■

TEST BİTTİ. LÜTFEN CEVAPLARINIZI KONTROL EDİNİZ.

TEST IS COMPLETED. PLEASE CHECK YOUR ANSWERS.

انتهت أسئلة الاختبار