

1.

Δ	A	B	C	D	E
A	C	D	E	A	B
B	D	E	A	B	C
C	E	A	B	C	D
D	A	B	C	D	E
E	B	C	D	E	A

Tabloya göre

$$(A \Delta B) \Delta (C \Delta D) = ?$$

$$\begin{array}{c} \downarrow \quad \downarrow \\ D \quad \Delta \quad C = C \end{array}$$

Cevap: C

2.

$$(x \Delta A) \Delta E = A$$

$$E \Delta E = A \text{ olur.}$$

O halde

$$X \Delta A = E$$

$$\downarrow \\ C$$

Cevap: C

3.

ω	1	2	3	4	5
1	5	4	1	2	3
2	3	5	4	1	2
3	2	3	5	4	1
4	1	2	3	5	4
5	4	1	2	3	5

$$A^P = \underbrace{A \omega A \omega A \dots \omega A}_{A^P} \rightarrow 4^{41} = ?$$

$$\text{Tablodan } 4^2 = 4 \omega 4 = 5$$

$$4^3 = 5 \omega 4 = 3$$

$$4^4 = 3 \omega 4 = 4$$

$$4^5 = 4 \omega 4 = 5$$

⋮

Buradan 4'ün katların tekrar 4'ü verdiğini görmekteyiz.

$$4^{40} = 4$$

$$4^{41} = 4 \omega 4 = 5 \text{ bulunur.}$$

Cevap: C

4.

■	Δ	Φ	π	∞
Δ	■	Φ	%	%
Φ	Φ	■	Δ	ε
π	%	Δ	■	ε
∞	%	ε	ε	■

A)

1	2	5
2	1	3
5	3	1

Tablo

■	Δ	Φ
Δ	■	Φ
Φ	Φ	■

uygun.

aynı

aynı

B)

0	1	1	3
1	0	2	4
1	2	0	2
3	4	2	0

→

■	Δ	Φ	π
Δ	■	Φ	%
Φ	Φ	■	Δ
π	%	Δ	■

uygun.

C) Uygun değildir.

Cevap: C

5.

Δ	a	b	c	d	e
a	b	c	d	e	a
b	c	d	e	a	b
c	d	e	a	b	c
d	e	a	b	c	d
e	a	b	c	d	e

Tablodan öncelikle birim eleman bulunur. Tablodan birim eleman e'dir. Bir ifadenin tersini bulmak için ifadedeki birim elemanı bulur karşılığı tersidir.

b'nin tersi (b^{-1}) bulmak için b ile başlayan satırdan birim elemanı buluruz. Sütun karşılığı tersidir. $b^{-1} = c$ olur.

$$\underbrace{(x^{-1} \Delta c)}_K \Delta (b^{-1} \Delta a) = d$$

$$\begin{aligned} \bullet \quad b^{-1} \Delta a &= c \Delta a = d \\ &\downarrow \\ &K \Delta d = d \\ &\downarrow \\ &e \text{ olmalı} \end{aligned}$$

$$\begin{aligned} x^{-1} \Delta c &= e \text{ ise} \\ &\downarrow \\ x^{-1} &= b \Rightarrow x = c \text{ olur.} \end{aligned}$$

Cevap: C

6.

\diamond	1	2	3	4	5
1	1	2	3	4	5
2	2	1	4	3	5
3	3	4	1	2	5
4	4	3	2	1	5
5	5	5	5	5	5

$$\underbrace{(3 \diamond 2)}_4 \diamond \underbrace{(4 \diamond 3)}_2 = ?$$

$$4 \diamond 2 = 3$$

Cevap: C

7.

$$\begin{aligned} (x \diamond 2) \diamond 2 &= 4 \Rightarrow x = ? \\ &\downarrow \\ &3 \\ x \diamond 2 &= 3 \\ &\downarrow \\ &4 \end{aligned}$$

Cevap: D

8.

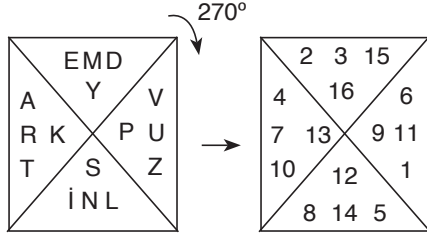
Δ	a	b	c	d	e
a	d	e	a	b	c
b	e	a	b	c	d
c	a	b	c	d	e
d	b	c	d	e	a
e	c	d	e	a	b

$$\underbrace{(a \Delta b)}_e \Delta (d) = ?$$

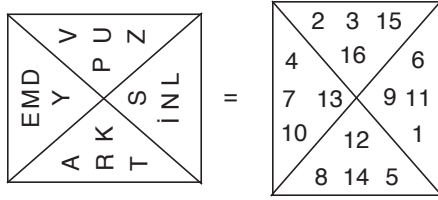
$$e \Delta d = a$$

Cevap: A

9.



O halde 270° dönünce oluşan şekil



V=2, U=3, Z=15, D=4, M=7, E=10,
Y=13, A=8, R=14, T=5, K=12, S=9,
İ=1, N=11, L=6, P=16

$$\begin{aligned} \text{DUVAR} &= D + U + V + A + R \\ &= 4 + 3 + 2 + 8 + 14 \\ &= 31 \end{aligned}$$

$$\begin{aligned} \text{O halde KEPAZE} &= K + E + P + A + Z + E \\ &= 12 + 10 + 16 + 8 + 15 + 10 \\ &= 71 \text{ bulunur.} \end{aligned}$$

Cevap: C

10.

▲	e	a	b	c	d
e	e	a	b	c	d
a	b	b	c	d	e
b	c	c	d	e	a
c	c	d	e	a	b
d	d	e	a	b	e

$$\begin{aligned} \underbrace{(a \triangle b)}_c \triangle \underbrace{(e \triangle c)}_c &= ? \\ \downarrow & \quad \downarrow \\ c \triangle c &= a \end{aligned}$$

Cevap: A

11.

$$\begin{aligned} \underbrace{(x \triangle a)}_c \triangle a &= d \\ \downarrow & \\ c & \\ & \\ x \triangle a &= c \\ \downarrow & \\ x = b & \text{ bulunur.} \end{aligned}$$

Cevap: B

12.

⊗	a	b	c	d	e
a	c	d	e	a	b
b	d	e	a	b	c
c	e	a	b	c	d
d	a	b	c	d	e
e	b	c	d	e	a

$$\begin{aligned} c \otimes \underbrace{[(d \otimes a) \otimes e]}_a &= ? \\ \downarrow & \\ c \otimes \underbrace{(a \otimes e)}_a &= ? \\ \downarrow & \\ c \otimes b &= a \end{aligned}$$

Cevap: A

13.

$$\begin{aligned} (b \otimes x) \otimes \underbrace{(e \otimes a)}_e &= c \\ \downarrow & \\ \underbrace{(b \otimes x)}_e \otimes b &= c \\ \downarrow & \\ b \otimes x &= e \\ \downarrow & \\ b & \end{aligned}$$

Cevap: B

14.

+	△	□	○
△		2 x □	
□			15
○	3 x □		

△ = a, □ = b ve ○ = c olsun

Tablodan

$$a + b = 2b \Rightarrow a = b$$

$$b + c = 15$$

$$a + c = 3b \Rightarrow b + c = 3b$$

$$c = 2b$$

$$b + 2b = 15$$

$$3b = 15 \Rightarrow b = 5, c = 10 \text{ ve } a = 5 \text{ olur.}$$

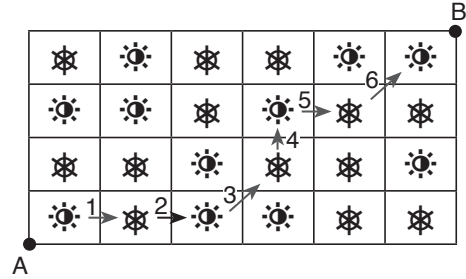
$a + b + c = 5 + 5 + 10 = 20$ bulunur.

15.

	2	7	9	3
+3	5	10	12	6
+2	7	12	14	8
+1	8	13	15	9

Cevap: A

16.



en az 6 adımda gidilebilir.

Cevap: B

17.

▲	○	□	*	Σ	Z
○	□	*	Σ	Z	○
□	*	Σ	Z	○	□
*	Σ	Z	○	□	*
Σ	Z	○	□	*	Σ
Z	○	□	*	Σ	Z

$$[(Z \blacktriangle \square) \blacktriangle (\circ \blacktriangle \Sigma)] \blacktriangle (* \blacktriangle ?) = Z$$

$$\downarrow \quad \quad \quad \downarrow \quad \quad \quad \blacktriangle (* \blacktriangle ?) = Z$$

$$(\square \quad \blacktriangle \quad Z) \quad \quad \quad \downarrow$$

$$\square \quad \quad \quad \blacktriangle \quad \quad \quad * = Z$$

$$* \blacktriangle ? = *$$

$$\downarrow$$

$$Z$$

Cevap: E

18.

I.	4	6	3	7
II.	3	5	7	1
III.	7	6	4	9
IV.	1	5	3	3
V.	2	7	5	4
VI.	X	7	6	8

I. $4 \quad 6 \quad 3 \quad 7$
 $\xrightarrow{-1}$ $\xrightarrow{+1}$

II. $3 \quad 5 \quad 7 \quad 1$
 $\xrightarrow{+4}$ $\xrightarrow{-4}$

III. $7 \quad 6 \quad 4 \quad 9$
 $\xrightarrow{-3}$ $\xrightarrow{+3}$

IV. $1 \quad 5 \quad 3 \quad 3$
 $\xrightarrow{+2}$ $\xrightarrow{-2}$

V. $2 \quad 7 \quad 5 \quad 4$
 $\xrightarrow{+3}$ $\xrightarrow{-3}$

VI. $X \quad 7 \quad 6 \quad 8$
 $\xrightarrow{+1}$ $\xrightarrow{-1}$

$$X = 7$$

Cevap: E

19.

1	3	2	4	5
3	4	5	1	2
5	1	4	2	3
②	5	1	3	4
4	2	3	5	1

 $x = 2$ bulunur.

Cevap: B

20.

3	1	6	2	4	5
2	3	5	4	6	1
5	4	3	6	1	2
4	2	1	5	3	6
1	6	②	3	5	4
6	5	4	1	2	3

 $X = 2$ bulunur.

Cevap: B