



Kitapçık Türü / Booklet Code: 210703

İÜCYÖS 2021
**YURTDIŞINDAN VEYA YABANCI UYRUKLU
ÖĞRENCİ SINAVI**
EXAMINATION FOR FOREIGN OR OVERSEAS STUDENTS

ADI / NAME	
SOYADI / SURNAME	
ADAY NO / APPLICANT NUMBER	
SINAV SALON ADI EXAM ROOM NAME	

KİTAPÇIK TÜRÜ
BOOKLET TYPE

C

TEMEL ÖĞRENME BECERİLERİ TESTİ
BASIC LEARNING SKILLS TEST

GENEL AÇIKLAMA

- 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 yeri işaretlenmişse, o soru yanlış cevaplanmış sayılacaktır.
- Cevap kağıdında imzanızı ayrılmış alana atınız ve kitapçık türünü mutlaka kodlayınız. Kitapçık türünü kodlamadığınızda veya eksik kodladığınızda sınavınız değerlendirilmeye alınmayacaktır.
- 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.
- Bu testler puanlanırken, doğru cevaplarınızın sayısından yanlış cevaplarınızın sayısının dörtte biri düşülecek ve kalan sayı net cevap sayınız olacaktır.
- Sınavda uyulacak diğer kurallar bu kitapçığın arka kapağında belirtilmiştir.

GENERAL INSTRUCTIONS

- The exam instructions appear at the beginning of the tests. Please read them carefully before beginning.
- In these tests there is only one correct answer for each question. If more than one alternative is marked for a question, that answer will automatically be considered wrong.
- Sign the answer sheet on the specified field "Signature". It is extremely important that you mark the booklet group. An applicant's examination is declared invalid if she/he does not mark the booklet group.
- You should use a soft, black pencil to mark the answer sheet. Completely fill in the circle for the answer you have chosen, but make sure your mark does not go beyond the borders of the circle. Do not use any kind of pen.
- Keep the answer sheet flat and do not fold it. Do not make any unnecessary marks on it.
- If you wish to change an answer, carefully erase it completely with a very soft eraser. Do not forget to mark your answer.
- In the scoring of the tests, for every four incorrect answers, one correct answer will be deducted; the remaining will be your net answers.
- The other regulations concerning the administration of the tests are mentioned at the back of the booklet.





1. $A = (-\infty, 2]$
 $B = [5, \infty)$
 $\Rightarrow (A' \cap B') = ?$

- A) $(-\infty, \infty)$ B) (2,5] C) [2,5]
D) [2,5] E) (2,5)

2. $(3a - 5b)^2 + (2b - 3c)^2 = 0$
 $\Rightarrow \frac{2a - 4b + 5c}{b - 3c} = ?$

- A) $-\frac{7}{2}$ B) $-\frac{8}{3}$ C) $-\frac{11}{6}$ D) $\frac{5}{2}$ E) $\frac{10}{3}$

3. $\frac{(\frac{1}{2} + \frac{1}{5}) : (0.24 - 0.1 \times 0.3)}{(2.\bar{9})^{-1} \times \frac{1}{10}} = ?$

- A) 0.01 B) 0.1 C) 0.9 D) 90 E) 100

4. $(48x - y) - (47x - y) + \dots - (x - y) = ?$

- A) $x - y$ B) y C) $24x$
D) $8x - 2y$ E) $48x$



5. $x \in \mathbb{N}$,

$$2^{1-\frac{x^2}{4}} \leq 1 \leq 5^{5-x} \Rightarrow \sum x = ?$$

- A) 4 B) 5 C) 9 D) 14 E) 17

6. $\frac{\sqrt{12} - \sqrt{28} + \sqrt{15} - \sqrt{35}}{(-2 - \sqrt{5})} \cdot (\sqrt{3} + \sqrt{7}) = ?$

- A) 2 B) 3 C) 4 D) 5 E) 7

7. $x, y, z \in \mathbb{R}$

$$\begin{cases} \frac{yz}{y+z} = \frac{4}{11} \\ \frac{xz}{x+z} = 2 \\ \frac{xy}{x+y} = \frac{3}{10} \end{cases} \Rightarrow \frac{13x}{y} - z = ?$$

- A) 24 B) 42 C) 67 D) 91 E) 120

8. $\frac{5x+a}{b-4x} \geq 0, x \in [-3,1) \Rightarrow \min(a+b) = ?$

- A) 4 B) 11 C) 15 D) 19 E) 20



9. $\frac{x^4 + 3x^2 + 4}{x^4 + x^3 + 2x^2} = ?$

A) $\frac{x-2}{x^2+x+1}$

B) $\frac{x^2+x+2}{x}$

C) $\frac{x^2-x+2}{x^2}$

D) $\frac{x^2}{x+2}$

E) $\frac{x^2+x+1}{x+1}$

10. $a, b \in \mathbb{Z}^-, \frac{1}{a} > \frac{1}{b}$

$\Rightarrow |b-a| + |2b+a| - |b| = ?$

A) $-2b-2a$

B) $-2b$

C) $-2a$

D) 0

E) $b-2a$

11. $(\sqrt{x} + \frac{1}{2\sqrt{x}})^2 + 2(\sqrt{x} + \frac{1}{2\sqrt{x}}) + 1 = 0$

$\Rightarrow x^2 + \frac{1}{16x^2} = ?$

A) $-\frac{1}{2}$

B) $-\frac{1}{4}$

C) 0

D) $\frac{1}{2}$

E) $\frac{1}{4}$

12. $z_1 = 7 + 3i \Rightarrow z_1 - z_2 = ?$

$z_2 = 5 - 2i$

A) 2

B) $2 + i$

C) $2 + 5i$

D) $2 - i$

E) $12 + i$



13. $z = \frac{\cos 75 + i \sin 75}{\cos 30 + i \sin 30} \Rightarrow z = ?$

A) $\frac{\sqrt{2}}{2} + \frac{\sqrt{2}}{2}i$ B) $\frac{\sqrt{2}}{2} - \frac{\sqrt{2}}{2}i$ C) $\frac{1}{2} + \frac{\sqrt{2}}{2}i$

D) $\frac{1}{2} - \frac{\sqrt{2}}{2}i$ E) $\frac{\sqrt{3}}{2} + \frac{\sqrt{2}}{2}i$

14. $\ln(x - 1) + \ln 5 = 1 \Rightarrow x = ?$

A) $\frac{e + 5}{5}$ B) $\frac{e + 1}{5}$ C) $\frac{e}{5}$

D) $\frac{e - 1}{5}$ E) $\frac{e - 5}{5}$

15. $\frac{1}{\cot a} - \frac{1}{\tan a} = 5 \Rightarrow \tan^2 a + \cot^2 a = ?$

A) 24 B) 25 C) 26 D) 27 E) 28

16. $\sin x - \cos x = \frac{2}{\sqrt{10}} \Rightarrow \tan 2x = ?$

A) $\frac{3}{4}$ B) $\frac{1}{2}$ C) $\frac{5}{12}$ D) $\frac{3}{10}$ E) $\frac{1}{5}$



17. $P^3(x) = 64. P(x + 1) \Rightarrow P(3) + P(2) = ?$

- A) 1 B) 4 C) 8 D) 16 E) 20

19. $f(x) = -x + 2 \Rightarrow (f \circ g)(3) = ?$

$g(x) = -x^2 + 5$

- A) 1 B) 3 C) 4 D) 6 E) 9

18. $g(3x + 1) = \begin{cases} x - 2, & x \geq 2 \\ x^2, & x < 2 \end{cases}$

$\Rightarrow g(4) + g(10) = ?$

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

20. $f: \mathbb{N} \rightarrow \mathbb{N}$

$f(x) = \sqrt{x} - 2 \Rightarrow f(36) + f(49) = ?$

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

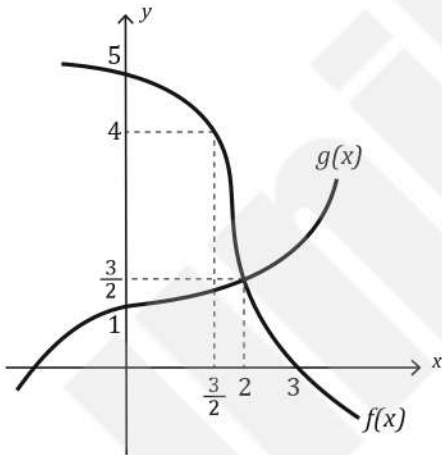
21. $g(x) = c \quad (c \in \mathbb{R})$

$$g(x) = (a - 2)x^2 + (b + 5)x + a \cdot b$$

$$\Rightarrow g(x) = ?$$

- A) -10 B) -6 C) -2 D) 2 E) 5

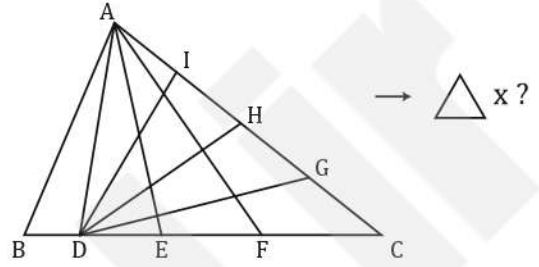
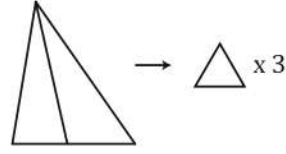
22.



$$g(0) + f(3) + (f \circ g)(2) = ?$$

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

23.



- A) 42 B) 46 C) 50 D) 54 E) 60

24. $f: [-1, 6] \rightarrow \mathbb{R}, \quad a, b \in \mathbb{R}$

$$\left. \begin{array}{l} f(x) = x^2 - 6x + 12 \\ f(a) = b \end{array} \right\} \Rightarrow P(a \geq b) = ?$$

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

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25. $\lim_{x \rightarrow \infty} \frac{\sin x}{x} = ?$

- A)
- $-\infty$
- B) -1 C) 0 D) 1 E)
- ∞

26. $\lim_{x \rightarrow 9} \frac{x-9}{\sqrt{x}-3} = ?$

- A) 0 B) 1 C) 3 D) 6 E)
- ∞

27. $\prod_{k=1}^n 2^k = 1024 \quad n \in \mathbb{Z}^+ \Rightarrow n = ?$

- A) 256 B) 64 C) 32 D) 9 E) 4

28.

$$A = \begin{pmatrix} 4 & 0 & 0 \\ 0 & 4 & 0 \\ 0 & 0 & 4 \end{pmatrix},$$

$$B = \begin{pmatrix} \frac{1}{32} & 0 & 0 \\ 0 & \frac{1}{32} & 0 \\ 0 & 0 & \frac{1}{32} \end{pmatrix}$$

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

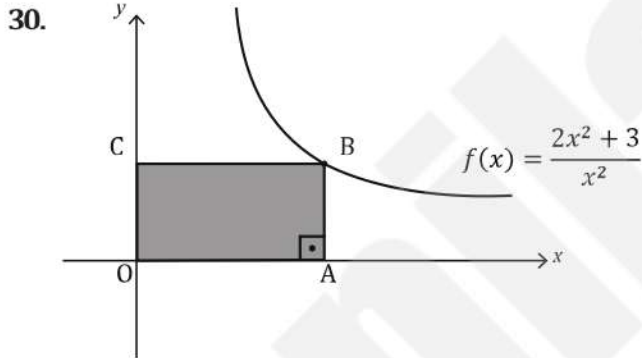
- A)
- $2^{-3}I_3$
- B)
- $2^{-2}I_3$
- C)
- $2I_3$
-
- D)
- 2^2I_3
- E)
- 2^3I_3

29. $\sum_{n=0}^{\infty} \left(\frac{1}{2}\right)^n = ?$

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

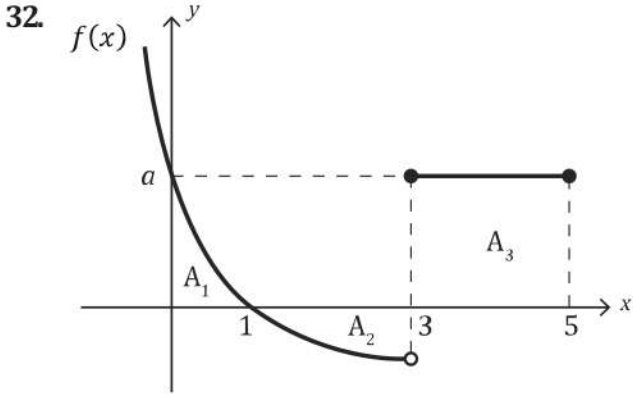
31. $\left. \begin{aligned} h(x) &= (f \circ g)(-3x) \\ g(3) &= g'(3) = 2 \\ f'(2) &= 4 \end{aligned} \right\} \Rightarrow h'(-1) = ?$

- A) -24 B) -12 C) 8 D) 12 E) 24



$[OA] // [CB]; \min(A(OABC)) = ?$

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

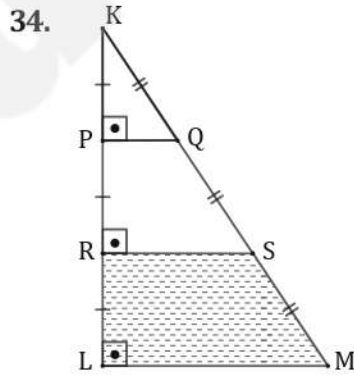
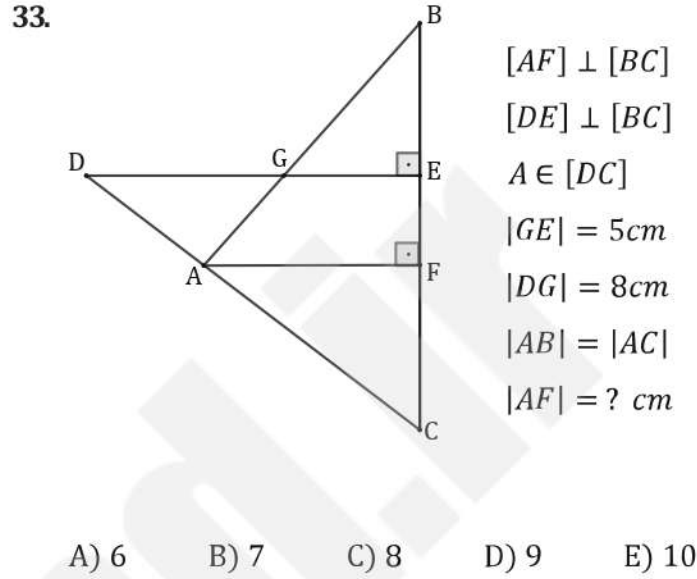


$$\frac{4A_1 - A_3}{2} = 2A_2$$

$$\int_0^5 f(x) = 10$$

$a = ?$

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



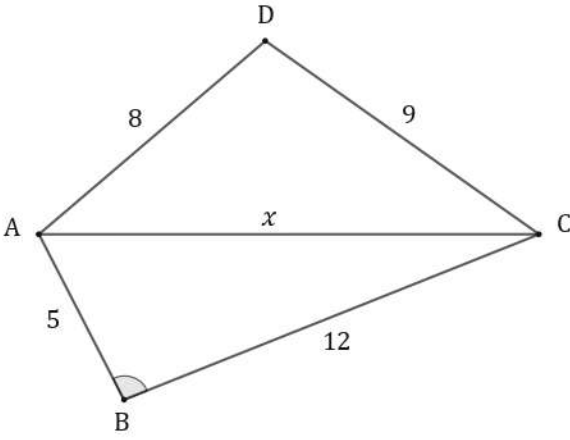
$$|KP| = |PR| = |RL|$$

$$|KQ| = |QS| = |SM|$$

$$A(KPQ) = 7 \text{ cm}^2 \Rightarrow A(RLMS) = ? \text{ cm}^2$$

- A) 21 B) 25 C) 32 D) 35 E) 42

35.

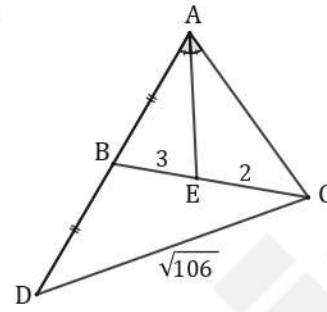


ABCD dörtgeninde $x \in \mathbb{Z}^+$, $m(\widehat{ABC}) > 90^\circ$ ise x 'in alabileceği farklı tamsayı değerleri toplamı kaçtır?

If $x \in \mathbb{Z}^+$, $m(\widehat{ABC}) > 90^\circ$ in the quadrilateral ABCD, what is the sum of the different integers x value could be?

- A) 58 B) 50 C) 45 D) 35 E) 34

36.



$$m(\widehat{BAE}) = m(\widehat{CAE})$$

$$|AB| = |BD|$$

$$|BE| = 3 \text{ cm}$$

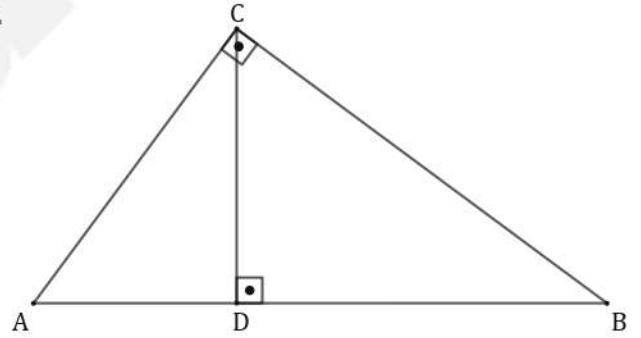
$$|EC| = 2 \text{ cm}$$

$$|DC| = \sqrt{106} \text{ cm}$$

$$|AE| = ? \text{ cm}$$

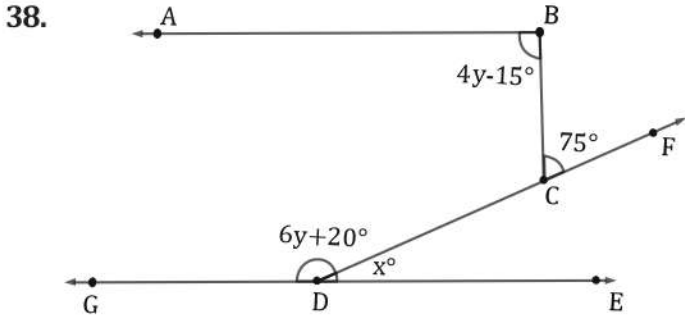
- A) $2\sqrt{2}$ B) 3 C) $3\sqrt{2}$ D) 4 E) $4\sqrt{2}$

37.



$$|AC| = 6 \text{ cm}, |AB| = 10 \text{ cm} \Rightarrow |CD| = ? \text{ cm}$$

- A) 4 B) 4.8 C) 5.2 D) 7 E) 9



$[BA // GE$

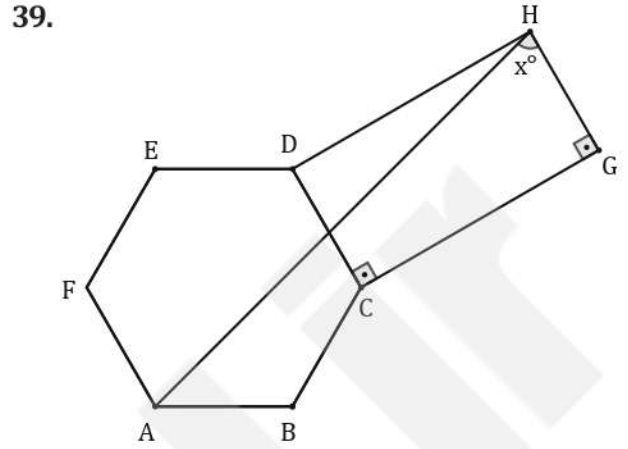
$C \in [DF$

$$m(\widehat{ABC}) = 4y - 15^\circ, \quad m(\widehat{GDF}) = 6y + 20^\circ$$

$$m(\widehat{BCF}) = 75^\circ$$

$$m(\widehat{FDE}) = x = ?$$

- A) 5 B) 10 C) 25 D) 30 E) 35



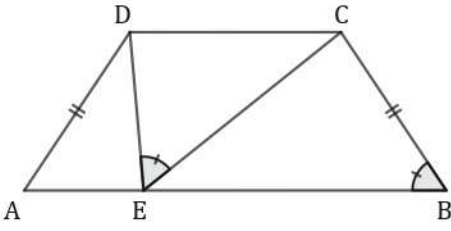
$$|AB| = |BC| = |CD| = |DE| = |EF| = |FA| = |GH|,$$

$$|CG| = |DH|, \quad 2|BC| = |CG|$$

$$x = ?$$

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

40.



$$[AB] \parallel [DC]$$

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

$$|AD| = |BC|$$

$$|AE| = 2 \text{ cm}, |EB| = 12 \text{ cm}$$

$$|AD| = ? \text{ cm}$$

- A) $2\sqrt{6}$ B) 5 C) $3\sqrt{3}$ D) 6 E) $4\sqrt{3}$

41.

$$\begin{array}{r} AB \\ \times C5 \\ \hline BED \\ + EB6 \\ \hline EB8ED \end{array}$$

Yandaki çarpma işleminde hata yapılmıştır. Buna göre,









There has been an error in the multiplication given aside.





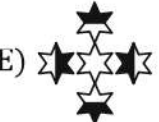
According to this,

$$E^D + A.C + B = ?$$

- A) 12 B) 13 C) 14 D) 15 E) 16

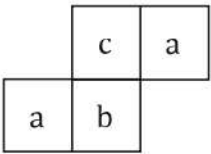
42.

		
		
		?

- A)  B)  C) 
- D)  E) 

43.

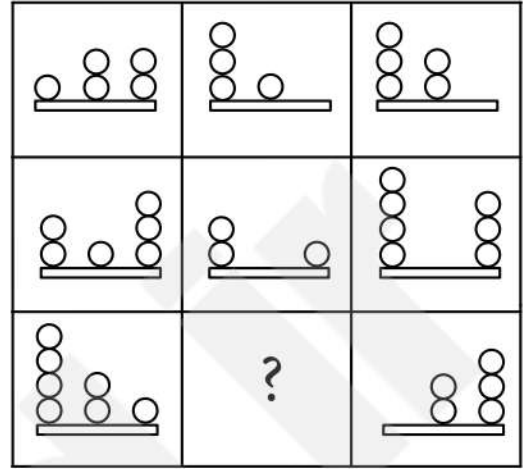
3	5	4	3	0	2	-2
1	2	5	-1	-1	9	4
4	9	-1	-1	3	3	2
-1	9	3	3	1	9	4
4	3	4	4	-1	2	4
1	4	2	0	3	2	9
6	-1	3	9	1	6	5



$(a \neq b \neq c)$
 $a^c \cdot b + a = ?$

- A) 0 B) 6 C) 12 D) 24 E) 30

44.

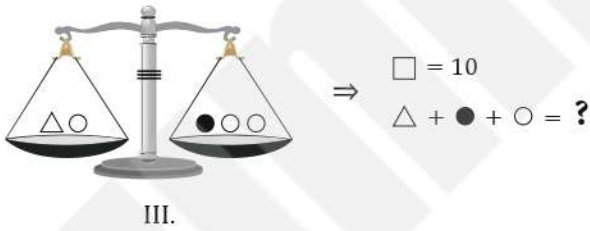


- A) B) C)
- D) E)

45. 0, 2, 8, 24, 64, 160, X \Rightarrow X = ?

- A) 184 B) 196 C) 288 D) 384 E) 448

46.

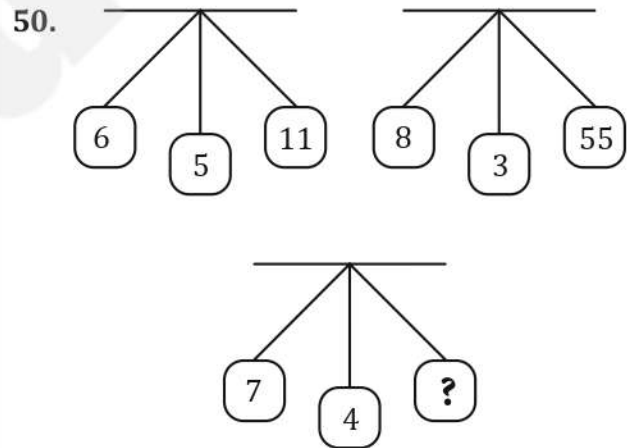
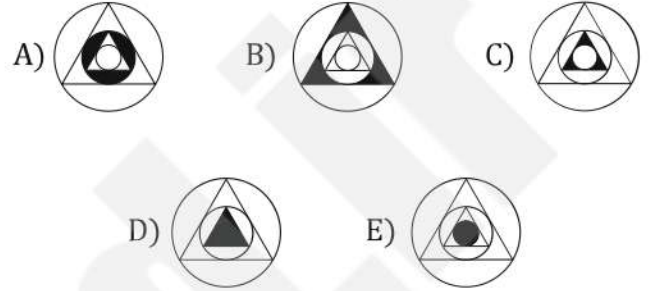
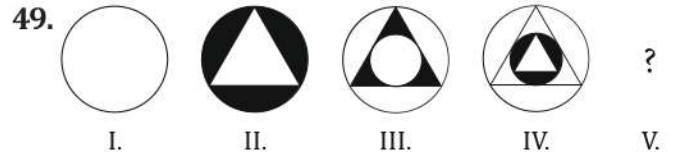
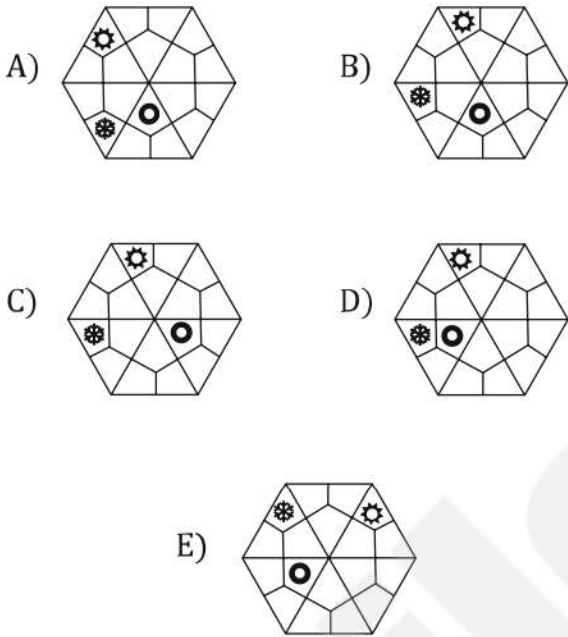
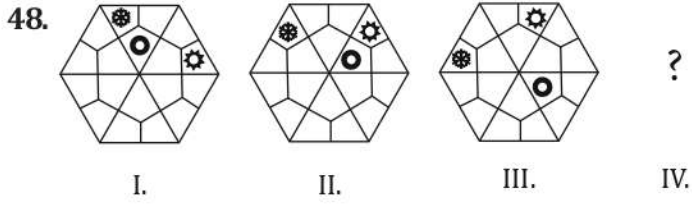


- A) 25 B) 30 C) 35 D) 40 E) 50

47.



- A) CCAA B) CCCA C) AAAC
D) BBBA E) BBBC



- A) 11 B) 22 C) 33 D) 44 E) 66

51. = 25

= 9

= 20

= ?

- A) 512 B) 201 C) 196 D) 36 E) 11

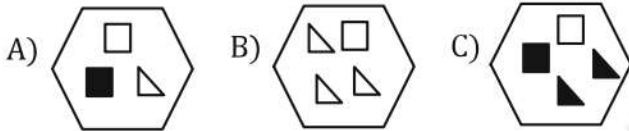
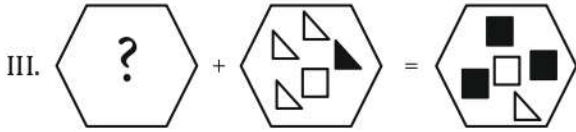
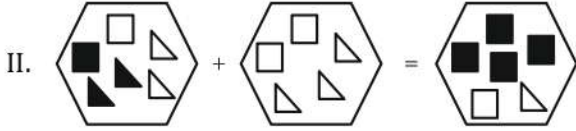
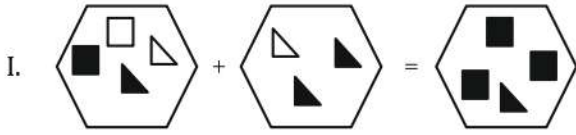
52. 25 — 34 — 35 — 39 — 75 — ? — 83

- A) 76 B) 77 C) 78 D) 79 E) 81

53. 3 2 7 6 1 9 9 4 6 1 8 7 5 7 1 ? 4 8

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

54.



55.

