

## PUZZLES DICES AND VISUAL REASONING

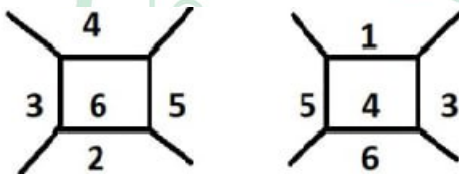
1. A dice with its face number 1 to 6 is shown in three different position, X,Y and Z.  
Find opposite faces.



x)                  y)                  z)

- a. 6-1,4-2,3-5  
b. 1-5,4-2,3-6  
c. 6-1,4-3,2-5  
d. 6-3,4-1,2-5

Ans: a



1 will be opposite to 6.

2 will be opposite to 4.

Opposite sides be 6-1,4-2,3-5.

2. Which of the following is standard dice?



I)                  II)                  III)                  IV)

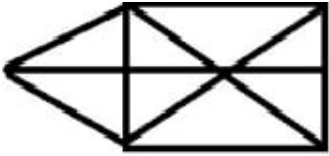
- a. I  
b. II  
c. III

d. IV

**Ans: II**

I, III, IV – GENERAL DICE

II – STANDARD DICE

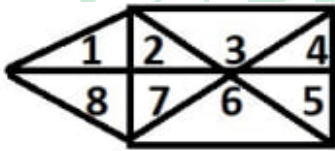
**3. How many triangles are present below?**

a. 16

b. 14

c. 15

d. 17

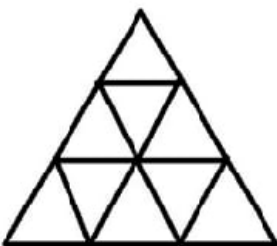
**Ans: d**

Triangle made of one digit = 8

Triangle made of two digits = (1,2)(8,7)(2,7)(1,8)(4,5) = 5

Triangle made of three digits = (4,5,6)(3,2,7)(2,7,6)(3,4,5) = 4

Total triangles = 8+5+4 = 17

**4. How many triangles are present below?**

a. 12

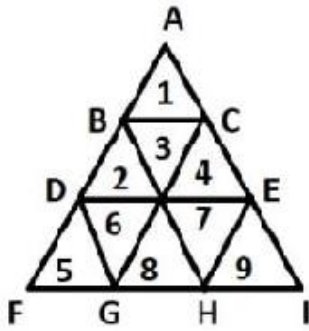
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b. 14

c. 15

d. 13

Ans: d

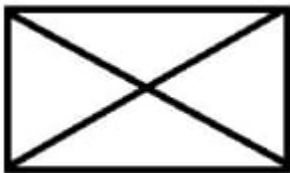


No of triangles = (1,2,3,4,5,6,7,8,9) = 9

=  $\triangle ADE$ ,  $\triangle FBH$ ,  $\triangle IGC$ ,  $\triangle AFI$  = 4

No of triangles = 9 + 4 = 13.

5. How many right-angle triangles are there in this figure?



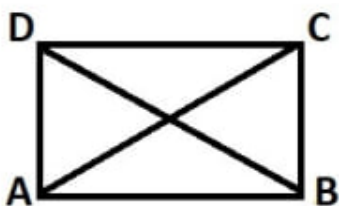
a. 6

b. 4

c. 7

d. 8

Ans: b



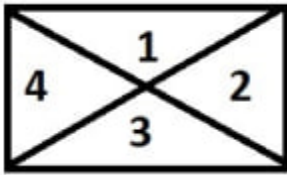
Right angled triangles =  $\triangle BCD$ ,  $\triangle DAC$ ,  $\triangle DAB$ ,  $\triangle ABC = 4$

6. How many triangles are present below?



- a. 4
- b. 6
- c. 8
- d. 7

Ans: c

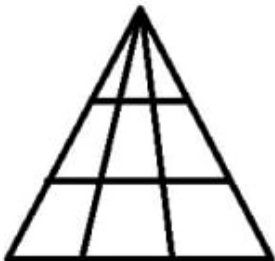


No. of triangle made of one digit = 4

No. of triangle made of one digit =  $(1,2)(2,3)(3,4)(1,4) = 4$

Total triangles =  $4 + 4 = 8$

7. How many triangles are present below?

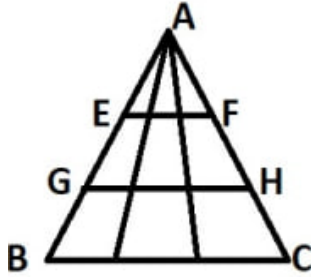


- a. 26
- b. 34

c. 21

d. 30

Ans: d



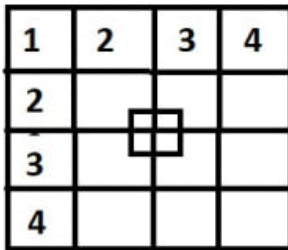
$$\triangle AEF = 10$$

$$\triangle AGH = 10$$

$$\triangle ABC = 10$$

$$\text{Total triangles} = 30$$

8. Count the number of squares in the figure.



a. 35

b. 36

c. 38

d. 37

Ans: a

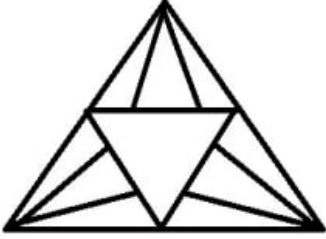
$$\text{Format} = 1^2 + 2^2 + 3^2 + 4^2$$

$$= (4 \times 4) + (3 \times 3) + (2 \times 2) + (1 \times 1) + 5$$

$$= 16 + 9 + 4 + 1 + 5$$

Total squares = 35

9. How many triangles are present below?



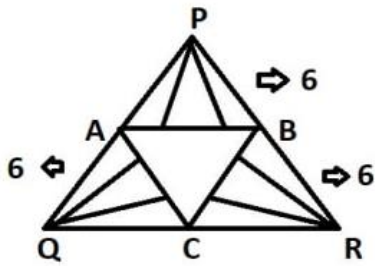
a. 20

b. 21

c. 22

d. 18

Ans: a



Total triangles =  $6 + 6 + 6 + \Delta ABC + \Delta PQR$

=  $6 + 6 + 6 + 1 + 1$

= 20

10. Count the number of triangles in the figure.



a. 20

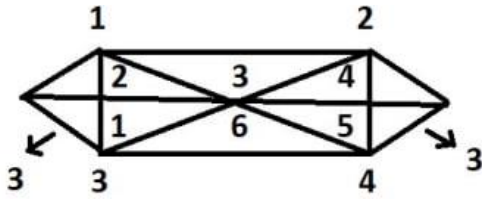
b. 26

c. 24

d. 22

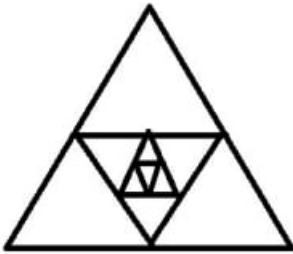
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Ans: d



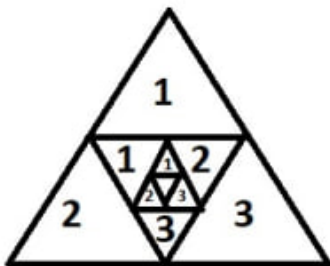
Total triangles =  $3 + 12 + 3 + 4$   
= 22 triangles.

11. Count the number of triangles in the figure.



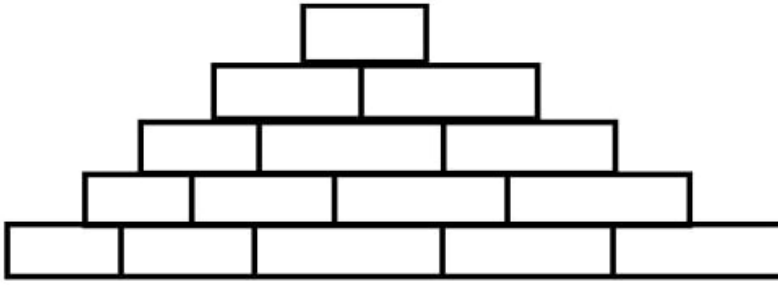
- a. 12
- b. 13
- c. 14
- d. 15

Ans: b



Total triangles =  $4 + 4 + 4 + 1 = 13$

12.Count the number of squares in the figure.



a. 45

b. 55

c. 65

d. 35

**Ans: b**

$$1^2 = 1$$

$$2^2 = 4$$

$$3^2 = 9$$

$$4^2 = 16$$

$$5^2 = 25$$

$$\text{Total squares} = 1+4+9+16+25$$

$$= 55$$

13.Count the number of triangles in the figure.



a. 6

b. 7

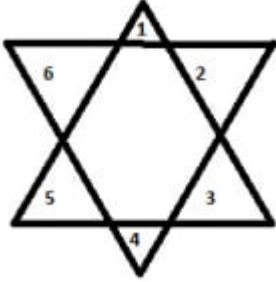


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c. 8

d. 9

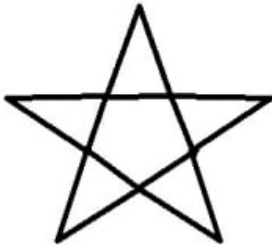
Ans: c



Total triangles = 6 + 2(big triangles)

= 8 triangles

14.Count the triangles in the picture.



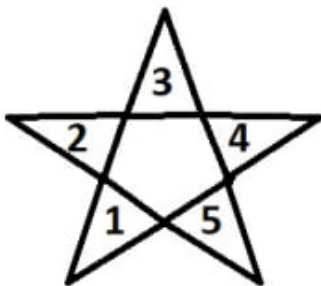
a. 12

b. 10

c. 9

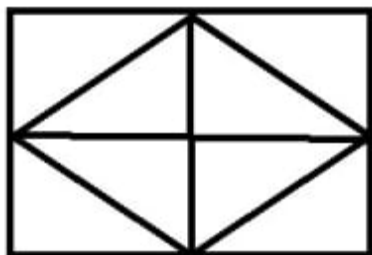
d. 11

Ans: b



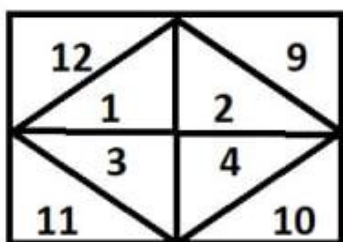
5 + 5 = 10

15. How many triangles are present below?



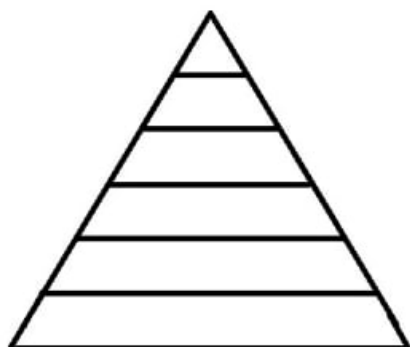
- a. 14
- b. 12
- c. 13
- d. 15

Ans: b



Total triangles =  $(4 \times 2) + 4 = 12$

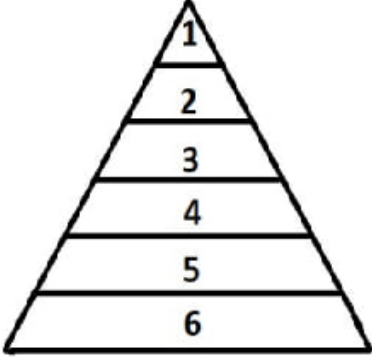
16. How many triangles are present below?



- a. 6
- b. 7
- c. 8

d. 12

Ans: a



So, there are 6 triangles present.

17. Find the opposite side of 5.



a. 2

b. 3

c. 1

d. 4

Ans: a

It's a standard dice, so

Opposite of 5 =  $7 - 5 = 2$ .

18. Find the opposite side of 6.



a. 1

b. 3

c. 2

d. 5

**Ans: a**

It's a standard dice, so

Opposite side of 6 = 7 - 6 = 1

**19. Find the opposite of 4.**

a. 6

b. 2

c. 1

d. 3

**Ans: a**

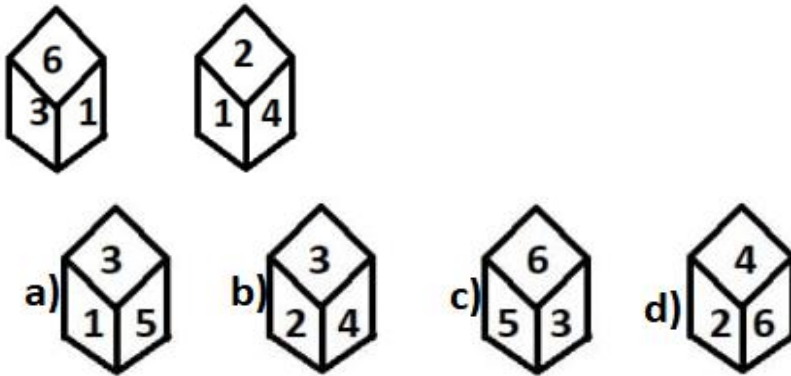
3 &lt;-&gt; 1

5 &lt;-&gt; 2

4 &lt;-&gt; 6

So, the opposite of 4 is 6.

20. Which one is correct with respect to the below figure?



Ans: c

Common number = 1



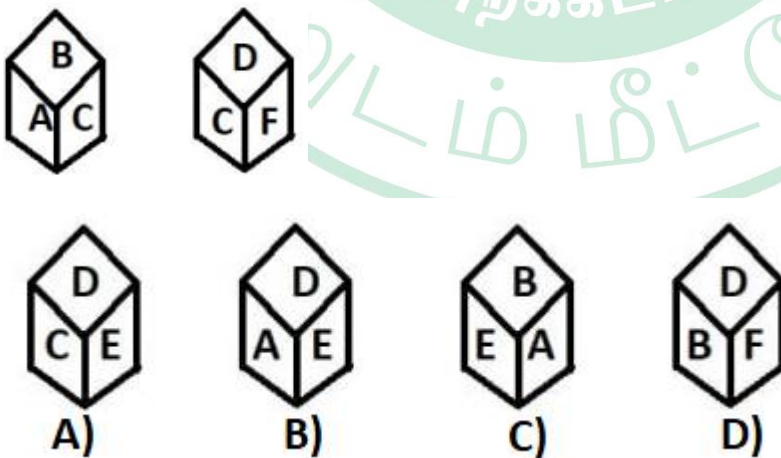
Opposite sides be,

3 <-> 2

6 <-> 4

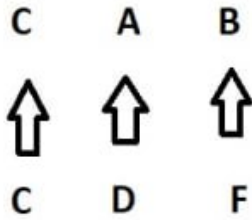
1 <-> 5

21. Which one is correct with respect to the below figure?



Ans:

Common term = c



Opposite sides be,

A <-> D

B <-> F

C <-> E

22. Find the opposite of 3.



a. 6

b. 1

c. 4

d. 2

Ans: a

Common term is 3.

Opposite to 3 is 6.

23. Find the opposite face of \$?



a. %

b. ©

c. @

d. #

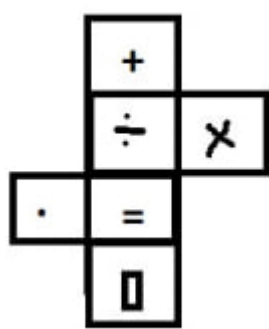
Ans: a

# @\$

# © %

\$ &lt;-&gt; %

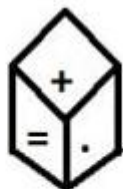
24. Which of the following is true?



A)



B)



C)



D)

Ans: a

+ &lt;-&gt; =

÷ &lt;-&gt;

× &lt;-&gt; .

25. In a column of poles one pole is the sixth from either end of the column. How many poles are there in a column?

a. 13

b. 11

c. 14

d. 15

**Ans: b**

Total number of poles in a column =  $6 + 6 - 1 = 11$

**26.If black means white, white means green, green means red, red means yellow and yellow means blue then what is the colour of tomato?**

a. Black

b. Yellow

c. Blue

d. Green.

**Ans: c**

Black means white

White means Green

Green means Red

Red means yellow

Yellow means blue.

**27.Read the following information carefully and answer the questions given below.**

Raja, Kavita Velan, Priya and Anita are friends and good players. Raja and Kavita are good in hockey and volleyball. Velan and Raja are good in hockey and tennis. Priya and Kavita are good in cricket and volleyball. Velan Priya and anitha are good in football and tennis.

**Q1. Who is good in hockey volleyball and cricket?**

a. Rajan

b. Velan

**c. Kavitha**



d. Priya

**Q2. Who is good in tennis volleyball and hockey?**

a. Rajan

b. Velan

c. Kavitha

d. Priya

**Q3. Who is good in tennis cricket volleyball and football?**

a. Rajan

b. Velan

c. Kavitha

d. Priya

**28. Examine carefully the following statement and answer the three items that follows**

Out of four friends, P, Q, R and S

- P and Q play football and cricket.
- Q and R play cricket and hockey.
- P and S play basketball and football.
- R and S play hockey and basketball.

**Q1. Who does not play hockey?**

a. P

b. Q

c. R

d. S

**Q2. Who play football, basketball and hockey?**

- a. P
- b. Q
- c. R
- d. S

**Q3. Which game Q, R and S play?**

- a. basketball
- b. hockey
- c. cricket
- d. football

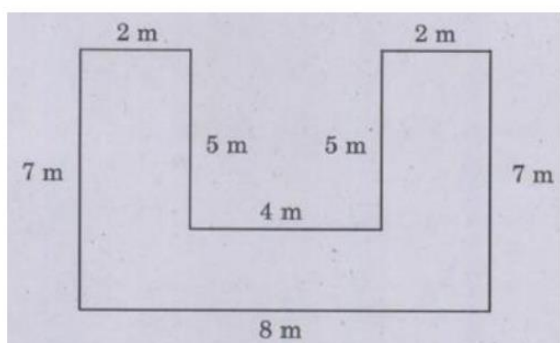
**29. 49 students are there in class. Nithin gets 18th position from the start. What is the rank of Nithin from end?**

- a. 33
- b. 32
- c. 30
- d. 34

**Ans: b**

$$49 - 18 + 1 = 32$$

**30. Find The Area of the Following Shapes?**



- A. 26 sq. m
- B. 36 sq. m

C. 46 sq. m

D. 56 sq. m

**Solution :**

Area =  $l * b$

Area of outer rectangle - Area of inner triangle

$(8 * 7) - (5 * 4) = 56 - 20 = 36 \text{ sq. m}$

31. If 'HUMBLE' is given by the code EHLUBM. What does the code EDUCATION mean?

A. NEDOIUTCA

B. NEOIDUTCA

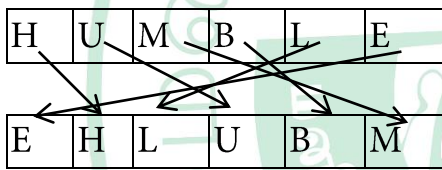
C. NEDUOITCA

D. NEODIUTCA

**Solution :**

HUMBLE → EHLUBM

EDUCATION → ?



EDUCATION

NEODIUTCA

Answer = NEODIUTCA

32. If "NOIDA" is written as 39658, how will "INDIA" be written?

A. 36568

B. 63568

C. 63569

D. 65368

**Solution:**

NOIDA = 39658

INDIA = ?

N = 3, O = 9, I = 6, D = 5, A = 8

INDIA = 63568

Answer = 63568

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33. Find the unknown number?

20 13 07

30 08 22

40 ? 28

A. 10

B. 12

C. 16

D. 20

**Solution :**

20 13 07

30 08 22

40 ? 28

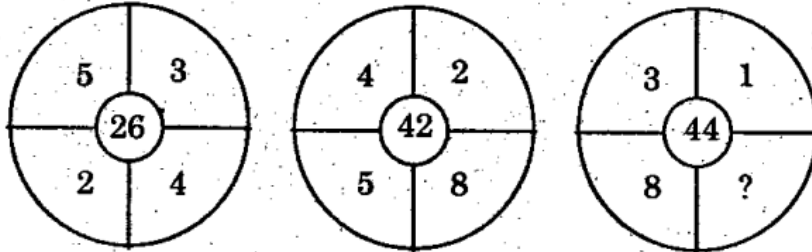
$20 - 7 = 13$

$30 - 22 = 08$

$40 - 28 = 12$

Ans = 12

34. Find the missing term



A. 12

B. 18

C. 16

D. 24

**Solution:**

$$(5 * 4) + (2 * 3) = 20 + 6 = 26$$

$$(4 * 8) + (5 * 2) = 32 + 10 = 42$$

$$(3 * x) + (8 * 1) = 44$$

$$3x + 8 = 44$$

$$3x = 44 - 8$$

$$3x = 36$$

$$X = 36/3$$

$$X = 12$$

Ans = 12

35. Find the odd man out in the following:

1, 144, 16, 25, 49, 81, 121, 36, 62

A. 1

B. 49

C. 121

D. 62

**Solution:**

Ans = 62

Because all other numbers are whole square numbers which is not a whole square number.

36. P, Q and R can fill the tank in 12, 16 and 24 min respectively. All three began to fill the tank together but P and Q left 3 and 4 min respectively before filling the tank. Find the total time taken by all of them to fill the tank?

A. 12 min

B. 16 min

C. 8 min

D. 10 min

**Solution:**

$$(x-3)/12 + (x-4)/16 + x/24 = 1$$

$$(4x - 12 + 3x - 12 + 2x)/48 = 1$$

$$9x - 24 = 48$$

$$9x = 72$$

$$X = 8 \text{ min}$$

37. Find the next number in the following series?

4, 6, 9,  $13\frac{1}{2}$

A.  $20\frac{1}{4}$

B.  $22\frac{3}{4}$

C. 19

D.  $17\frac{1}{2}$

**Solution :**

Find the next term:

4, 6, 9,  $13\frac{1}{2}$ , ?

2 3 4.5 6.75

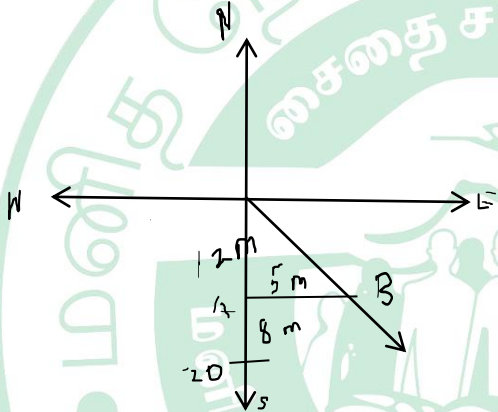
$$13\frac{1}{2} + 6.75 = 13.5 + 6.75 = 20.25$$

$$\text{Ans} = 20\frac{1}{4}$$

38. Raju starts walking towards south. After walking 20 m he turns towards north and walks 8 m. again he turns towards east and walks 5m. how far and in which direction is he from his starting point.

- A. 15m, south
- B. 17m, north-west
- C. 7m, east
- D. 13m, south-east

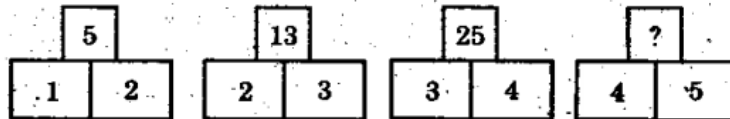
**Solution:**



$$OB^2 = OA^2 + AB^2 = 12^2 + 5^2 = 144 + 25 = 169$$

$$OB = 13\text{m South-East}$$

39. Find the missing number in the place?



- A. 41
- B. 35
- C. 30
- D. 28

**Solution :**

$$1^2 + 2^2 = 1 + 4 = 5$$

$$2^2 + 3^2 = 4 + 9 = 13$$

$$3^2 + 4^2 = 9 + 16 = 25$$

$$4^2 + 5^2 = 16 + 25 = 41$$

$$\text{Ans} = 41$$

40. If + means  $\times$ ,  $\times$  means  $-$ ,  $\div$  means  $+$  and  $-$  means  $\div$  then what is the value of  $(175 - 25) \div (5+20) \times (3+10)$

A) 265

B) 78

C) 77

D) 354

**Solution :**

$$(175-25) \div (5+20) \times (3+10) = ?$$

$$(175 \div 25) + (5 \times 10) - (3 \times 10) = ?$$

$$7 + 100 - 30 = 7 + 70 = 77$$

$$\text{Answer} = 77$$

41. Find out the wrong number in the series

190, 166, 145, 128, 112, 100, 91

A) 100

B) 166

C) 145

D) 128

**Solution:**

$$190 - 166 = 24$$

$$166 - 145 = 21$$

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$$145-128=17$$

$$128-112=16$$

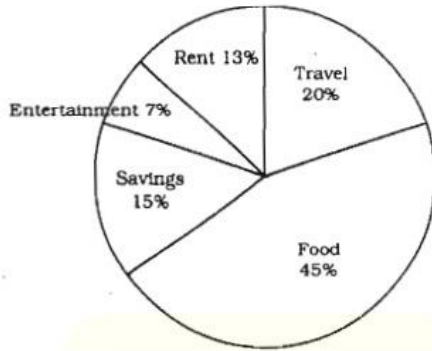
$$112-100=12$$

$$100-91=9$$

All the different is 3 except 128

If 128 is replaced with 127 all the difference will become as 3

42. A man earns Rs.28,000 as monthly salary His expenditure and saving are given in the diagram. How much did he spend on entertainment?



A) RS.1950

B) RS.1960

C) RS.1970

D) RS.1980

**Solution:**

Monthly income = 28000 rs

Entertainment = 7%

$$28000 \times \frac{7}{100} = 1960 \text{rs}$$

Answer = 1960rs

43. G I V E 5137, B A T 9 2 4 then G A T E?

A) 2547



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B) 5247

C) 5427

D) 5724

Solution:

G I V E    B A T

5 1 3 7    9 2 4

G A T E

5 2 4 7

ANS = 5247

44. BMO, EOQ, HQS, \_\_\_\_\_ ?

A) LMN

B) SOV

C) SOW

D) KSU

B → E → H → K

CD    FG    IJ

M → O → Q → S

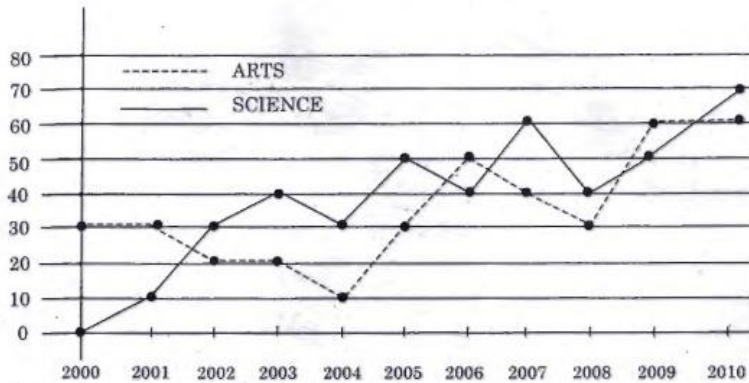
N    P    R

O → Q → S → U

P    R    T

ANS = KSU

45. Sales by two category for ABC press 2000,2010 (in thousands of books)



In how many years did the sales of science books exceed the sales of arts books from 2000 to 2009?

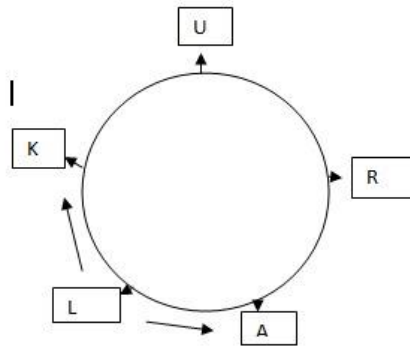
- A) 4 years
- B) 5 years
- C) 6 years
- D) 7 years

**Solution:**

Science book outsold art books in 2002, 2003, 2004, 2005, 2007, 2008

46. Five persons A, K, L, R and U are sitting around a circular table, K is immediate left to U and B is between A and U, then immediate. Neighbours of L are

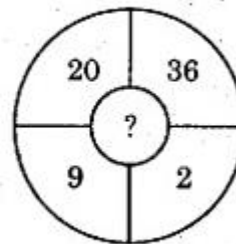
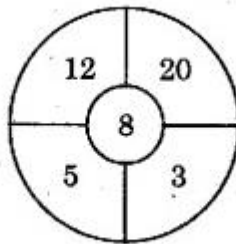
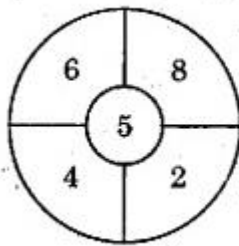
- A) K and A
- B) U and A
- C) K and R
- D) A and R

**SOLUTION:**

A,K,L,R,U are round

Near L are K and A

Ans: K and A

**47. Find the missing number in the place?**

A) 10

B) 11

C) 13

D) 14

**Solution:**

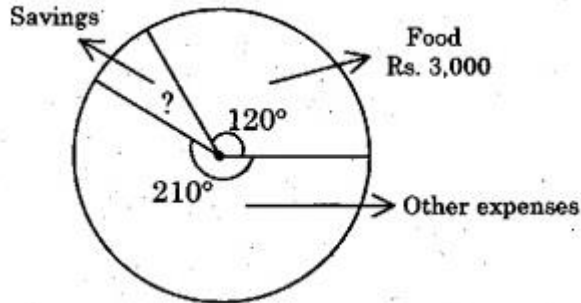
$$1^{\text{st}} \text{ circle} \Rightarrow 6/2 + 8/4 = 3+2= 5$$

$$2^{\text{nd}} \text{ circle} \Rightarrow 12/3 + 20/5 = 4+4=8$$

$$3^{\text{rd}} \text{ circle} \Rightarrow 20/2 + 36/9 = 10+4= 14$$

Answer = 14

48. Monthly expenditure of a person is shown in the figure. Find the amount he has in his savings?



- A) Rs.800
- B) Rs.900
- C) Rs.1,000
- D) RS 750

**Solution:**

$$\begin{aligned} \text{Total angle} &= 360^\circ \\ \text{Let } x &= \text{Savings} \\ 360^\circ &= 120^\circ + 210^\circ + x \\ x &= 360^\circ - (120^\circ + 210^\circ) \\ x &= 360^\circ - 330^\circ \\ x &= 30^\circ \end{aligned}$$

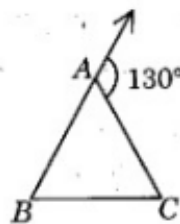
Amount for Food = Rs. 3,000

$$\frac{x}{30^\circ} = \frac{3000}{120^\circ}$$

$$x = \frac{30 \times 3000}{120} = 750 \text{ rs (option d)}$$

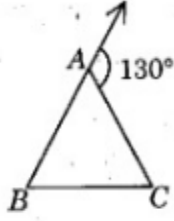
49. In the given figure,

$\angle B : \angle C = 2 : 3$ . Find  $\angle B$



- A)  $120^\circ$
- B)  $52^\circ$
- C)  $78^\circ$
- D)  $130^\circ$

$\angle B : \angle C = 2 : 3$ . Find  $\angle B$



$$\angle A = 180^\circ - 130^\circ = 50^\circ$$

$$\angle B : \angle C = 2 : 3$$

$$\angle B = 2X, \quad \angle C = 3X$$

$$\angle B = 2X = 2 \times 26^\circ = 52^\circ$$

$$50^\circ + 2x + 3x = 180^\circ \quad 50^\circ + 5x = 180^\circ$$

$$5x = 180^\circ - 50^\circ = 130^\circ$$

50. Five distinct items A, B, C, D and E are placed in distinct boxes numbered as 1, 2, 3, 4, 5. Items B and E cannot be grouped together. Maximum number of boxes can be left out without items is

A) 1

B) 2

C) 3

D) 0

51. Find out the wrong number in the sequence. 623, 251, 543, 356

A) 543

B) 251

C) 623

D) 356

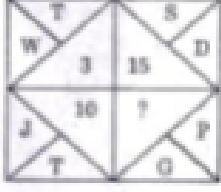
Solution:

$$121, 264, 312, 462, 583 \quad 121/11 = 11, 264/11 = 24, 462/11 = 42, 583/11 = 53$$

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Answer = 356

52. What will come in the place of a question mark?



A) 9

B) 6

C) 7

D) 3

$$W - T = 3$$

$$(23 - 20 = 3)$$

$$S - D = 15$$

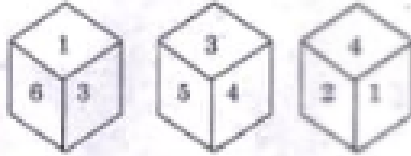
$$(19 - 4 = 15)$$

$$J - T = 10$$

$$(20 - 10 = 10)$$

$$G - P = ? \quad 16 - 7 = 9 \quad \text{Answer} = 9 \quad (\text{option A})$$

53. Three positions of the same die are given. Find the number opposite to the side represented by 2.



A) 5

B) 3

C) 6

D) 1

**Check options:**

4,1 Never comes because it is near

May be 3, 5 6

5, 6 is in one place

So answer is 3

**54.If 7 is related to 56 then 10 is related to**

A) 74

B) 64

C) 50

**D) 90**

7 is related to 56 10 is related to = ?

 $7 \times 6 = 56$  consecutive numbers -  $7, 8$   $10 \times 11 = 110$  -  $\times$   $10 \times 9 = 90$ 

Answer = 90 (option d)

**55.If  $5 + 3 = 34$  and  $6 + 2 = 40$  then, the value of  $7 + 1$  is**

A. 54

B. 34

**C. 50**

D. 30

**Solution :**

$$5 + 3 = 5^2 + 3^2 = 25 + 9 = 34$$

$$6 + 2 = 6^2 + 2^2 = 36 + 4 = 40$$

$$7 + 1 = 7^2 + 1^2 = 49 + 1 = 50$$

**Ans = 50****56.Find the missing number in the following:**

4242, 4254, 4230, 4266, 4218, 4278, \_\_\_\_\_

A) 4264

B) 4272

C) 4228

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D) 4206

**Solution :**

4242, 4254, 4230, 4266, 4218, 4278, \_\_\_\_\_? Split in to 2 series

4242, 4230, 4218, \_\_\_\_? = decreased by 12

4254, 4266, 4278 \_\_\_\_? = increased by 12  $4218 - 12 = 4206$  (option d)

57. Find out the odd number in the series given 25, 36, 49, 81, 121, 169, 225

A) 36

B) 49

C) 169

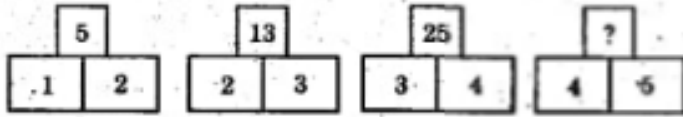
D) 225

**Solution:**

25, 36, 49, 81, 121, 169, 225

6(2) square of even number others are square of odd number answer= 36 (options)

58. Find the missing number in the place “?”



A) 41

B) 35

C) 30

D) 28

**Solution:**

$$1^2 + 2^2 = 1 + 4 = 5$$

$$2^2 + 3^2 = 4 + 9 = 13$$

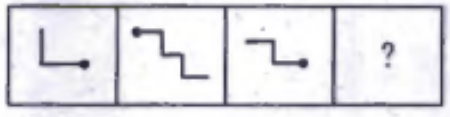
$$3^2 + 4^2 = 9 + 16 = 25$$

$$4^2 + 5^2 = 16 + 25 = 41$$

Ans = 41

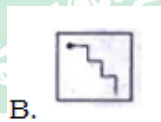


59. Find the missing block.



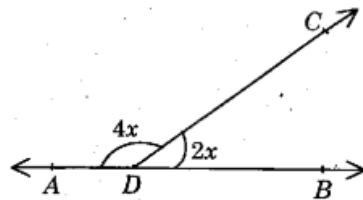
- A.
- B.
- C.
- D.

**Solution:**



Extra one line added

60. From the fig find the value of x



- A.  $30^\circ$
- B.  $60^\circ$
- C.  $90^\circ$
- D.  $45^\circ$

**Solution:**

$$4X + 2X = 180^\circ$$

$$6X = 180^\circ$$

$$X = 180^\circ / 6$$

$$X = 30^\circ$$