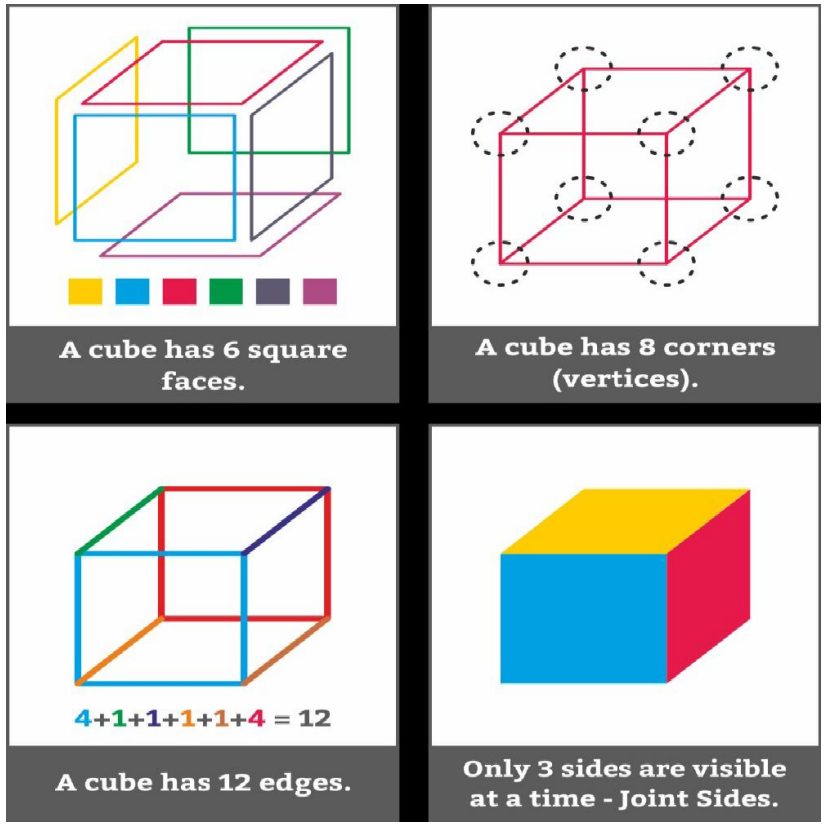
CUBES & DICES



So, here we can see that a cube has 8 corners, 6 faces and 12 edges.
A bigger cube is painted with same color on each of its faces. Now the cube is cut into identical smaller cubes each measuring `n' cms,

Q1)How many of the smaller cubes will have exactly three faces painted?
Ans.For a proper cube the answer is always 8.

Q2) How many of the smaller cubes will have exactly two faces painted?
Ans.For an n*n*n cube i.e with each side measuring `n' cms ,the answer will be 12(n-2)

Q3)How many of the smaller cubes will have exactly one face painted?
Ans.For an n*n*n cube i.e with each side measuring `n' cms ,the answer will be 6(n-2)2

Q4)How many of the smaller cubes will have no face painted?
Ans.For an n*n*n cube i.e with each side measuring `n' cms ,the answer will be (n-2)3.

Direction for Q1 to Q5: Read the following data and answers and questions that following

i)A cuboid shaped wooden block has 6 cm length 4 cm breadth and 1 cm height.

ii. Two sides measuring 4 cm * 1cm are coloured in Black.

iii. Two sides measuring 6 cm * 1cm are coloured in Red.

iv. Two sides measuring 6 cm * 4cm are coloured in Green.

v. The block is divided into 6 equal cubes of side 1 cm (from 6 cm side) four equal cubes of side 1 cm (from 4 cm side).

Q1.How many cubes having Red, Green and Black colours on at least one side of the cube will be formed?

A. 16 B. 12 C. 10 D. 4

Q2.How many small cubes will be formed?

A. 6 B. 12 C. 16 D. 24

Q3.How many cubes will remain if the cubes having black and green colour are removed.

A. 4 B. 12 C. 16 D. None of these

Q4. How many cubes will have green colour on two sides and rest of the four sides having no colour?

A. 12 B. 10 C. 8 D. None of these

Q5. How many cubes will have four coloured sides and two non- coloured sides?

A. 8 B. 4 C. 16 D. None of these

A cube is coloured red on two opposite faces, blue on two adjacent faces and yellow on the two remaining faces. It is then cut into two halves along the plane parallel to the red faces. One piece is then cut into four equal cubes and the other one into 32 equal cubes. Now answer the following questions based on the above statement.

6. How many cubes do not have any coloured face?

A. 0 B. 2 C. 4 D. 8

7. How many cubes do not have any red face?

A. 8 B. 16 C. 20 D. 24

8. How many cubes have at least two coloured faces?

A. 20 B. 24 C. 28 D. 32

9.How many cubes have one yellow face with other faces blank?

A. 4 B.14 C. 16 D. 17

10. How many cubes have at least one blue face?

A. 14 B.15 C. 17 D. 20

11. How many small cubes will be formed having all the three colours?

A. 2 B.8 C. 12 D. 16

12. How many small cubes will be formed having one side yellow and one side red necessarily?

A. 8 B. 48 C. 32 D. 16

13. A cube is divided into 64 equal small cubes. Before dividing the cube each face of it is coloured in different colours. How many small cubes will be formed having more than one colour?

A. 32 B. 16 C. 8 D. 48

SERIES-MISSING VALUES

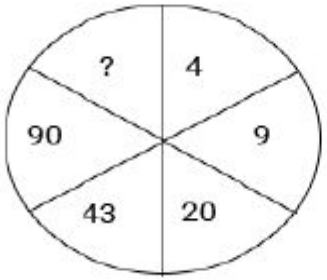
INSTRUCTION: What value replaces "? " in the below figures.

Q1.

β	G	N
D	J	R
G	N	?

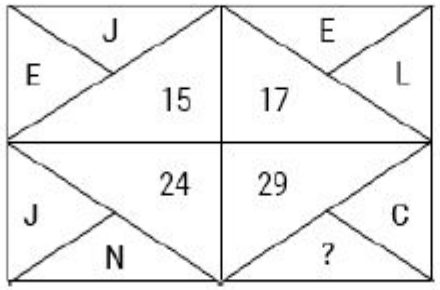
A. U B. V C. W D. X

Q2.



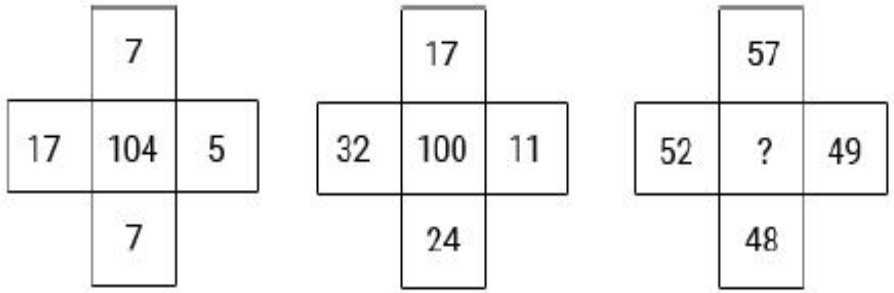
A. 185 B. 126 C. 239 D. 145

Q3.



A. M B. Z C. Q D. S

Q4



A. 70

B. 80

C. 90

D. 100

Q5.

20	48	36
10	16	8
5	?	4
40	64	72

A. 10 B. 12 C. 13 D. 11

Q6.

E	J	O
A	C	B
D	G	?

A. M B. O C. N D. T

Q7.

42	44	38
23	55	28
37	?	39

A. 22 B. 33 C. 66 D. 77

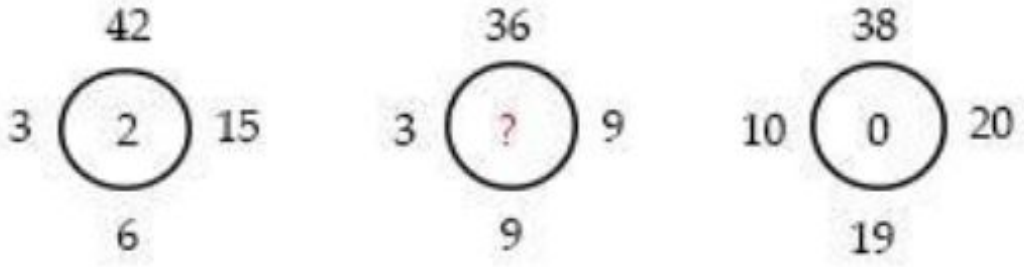
Q8.

1	3	7
5	12	14
25	?	28
125	192	56

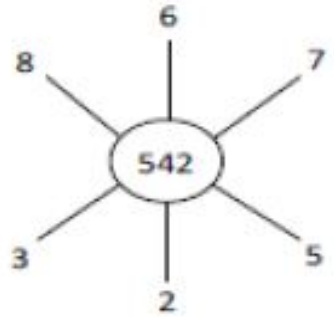
A. 64 B. 56 C. 48 D. 40

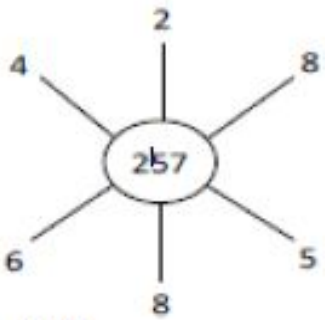
Q9.

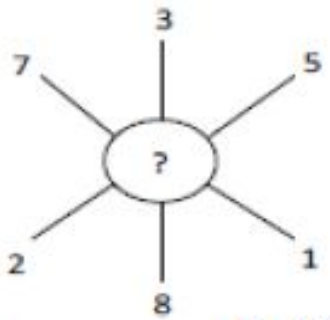
A. 4 B. 3 C. 2 D. 1



Q10.

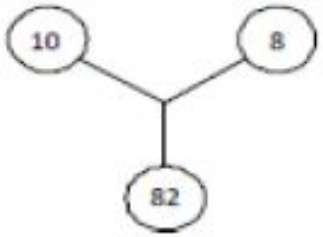


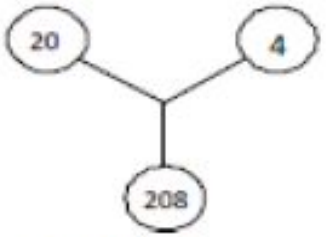


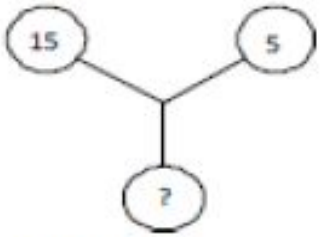


A. 613 B. 368 C. 178 D. 454

Q11.

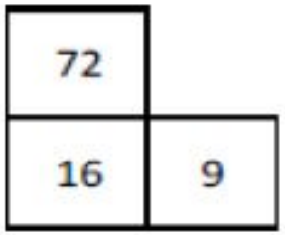


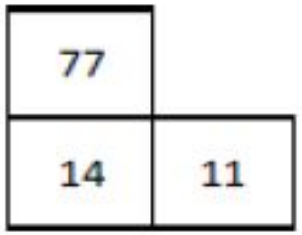


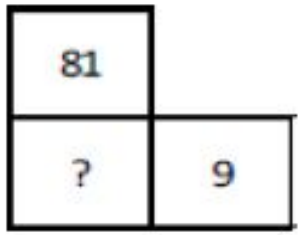


A. 250 B. 130 C. 125 D. 225

Q12.

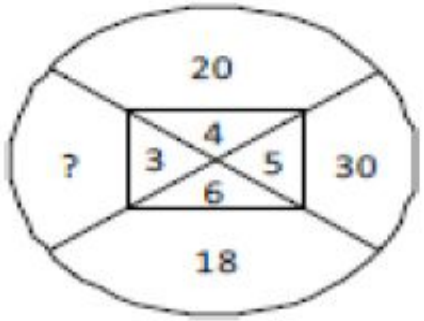






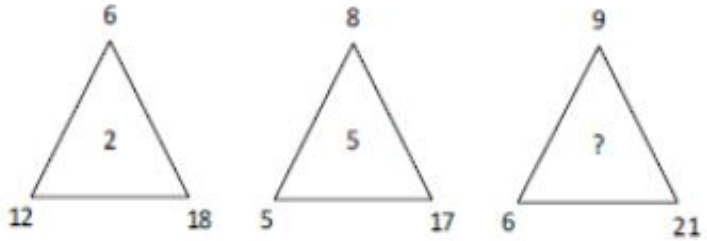
A. 7 B. 18 C. 21 D. 16

Q15.



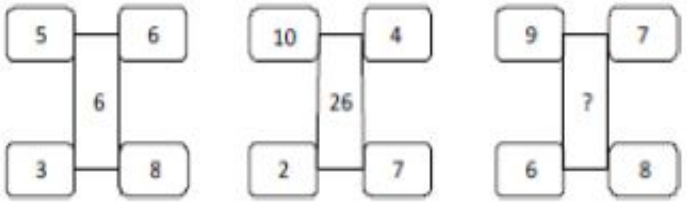
A. 20 B. 24 C. 14 D. 12

Q16.



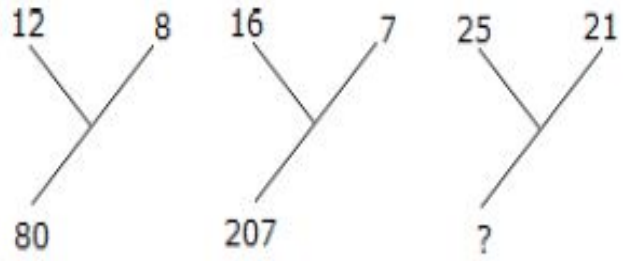
A. 5 B. 7 C. 9 D. 11

Q17.



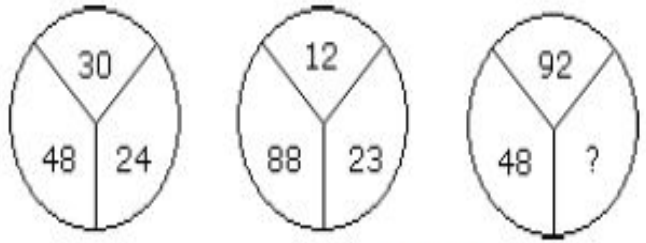
A. 13 B. 15 C. 36 D. 16

Q18.



A. 184 B. 210 C. 241 D. 425

Q19.



A. 60 B. 46 C. 86 D. 75

THANKYOU