CUBES & DICES

A cube has 6 square faces.

A cube has 8 corners (vertices).

4+1+1+1+1+4 = 12
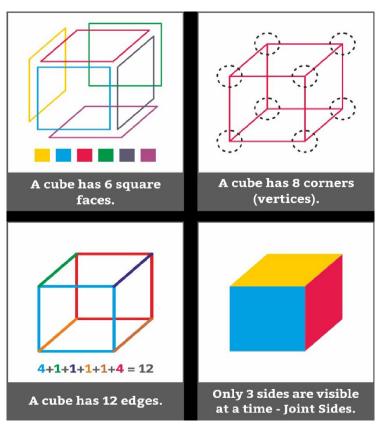
A cube has 12 edges.

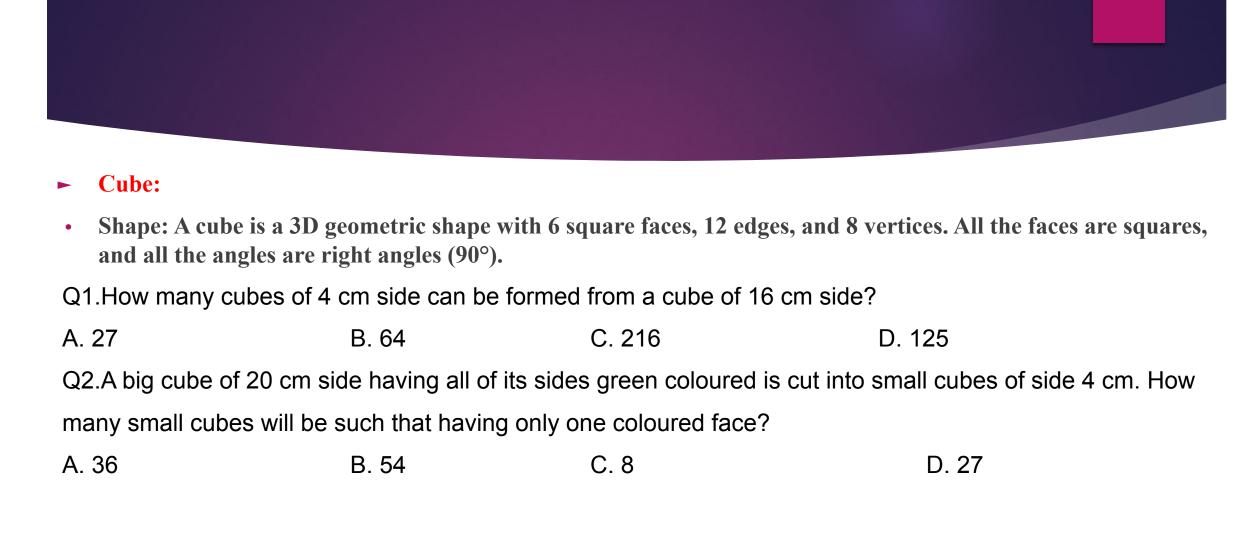Only 3 sides are visible at a time - Joint Sides.

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 `x' cms, and if n is the number of small cubes that fit along each edge of the large cube (the number of smaller cubes along the edge of the larger cube).

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 $(n-2)^3$.

► **Cube:**

- **Shape: A cube is a 3D geometric shape with 6 square faces, 12 edges, and 8 vertices. All the faces are squares, and all the angles are right angles (90°).**

Q1.How many cubes of 4 cm side can be formed from a cube of 16 cm side?

A. 27   B. 64   C. 216   D. 125

Q2.A big cube of 20 cm side having all of its sides green coloured is cut into small cubes of side 4 cm. How many small cubes will be such that having only one coloured face?

A. 36   B. 54   C. 8   D. 27

► A big cube of side 18 cm is divided into small cubes of side 3 cm. Before dividing the cube it is

► coloured in green colour.

► 3. How many cubes will be formed having only one face coloured?

► A. 120   B. 96   C. 90   D. 108

► 4. How many cubes will be formed having only two faces coloured?

► A. 12   B. 36   C. 24   D. 48

► 5. How many cubes will be formed having three faces coloured?

► A. 8   B. 4   C. 6   D. 10

► 6. How many cubes will be formed having four faces coloured?

► A. 6   B. 4   C. 0   D. 8

► 7. How many cubes will be formed having no face coloured?

► A. 27   B. 60   C. 125   D. None of these

8.How many cubes will be formed having four faces coloured?

A. 6   B. 4   C. 0   D. 8

SERIES-MISSING VALUES

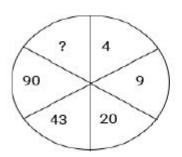**INSTRUCTION:** What value replaces "? " in the below figures.
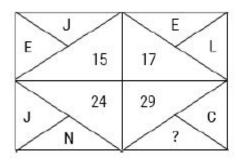
Q1.

B	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

	7	
17	104	5
	7	

	17	
32	100	11
	24	

	57	
52	?	49
	48	

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

42
3 (2) 15
6

36
3 (?) 9
9

38
10 (0) 20
19

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.

12 8 → 80   16 7 → 207   25 21 → ?

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

Q19.

Circle 1: 30, 48, 24   Circle 2: 12, 88, 23   Circle 3: 92, 48, ?

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

THANKYOU