CUBES

Directions 1 – 5

216 small identical cubes are arranged to form a large cube. Now three faces of the large cube are painted yellow, of which no two faces are opposite each other. Of the remaining faces, two are painted green and the other black.

1. How many small cubes have all three colors on them?
   (a) 1 (b) 2 (c) 3 (d) 4
2. How many small cubes have exactly two same colors on them?
   (a) 20 (b) 32 (c) 16 (d) 24
3. How many small cubes have exactly three faces painted in the same colour?
   (a) 0 (b) 1 (c) 2 (d) 3
4. How many small cubes have black and green but not yellow colour on them?
   (a) 8 (b) 9 (c) 10 (d) 12

Directions 5 – 9

The following questions are based on the information given below:

- A cuboid shaped wooden block has 6 cm length, 4 cm breadth and 1 cm height.
- Two faces measuring 4 cm x 1 cm are coloured in black.
- Two faces measuring 6 cm x 1 cm are coloured in red.
- Two faces measuring 6 cm x 4 cm are coloured in green.
- The block is divided into 6 equal cubes of side 1 cm (from 6 cm side), 4 equal cubes of side 1 cm(from 4 cm side).

5. 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
6. How many small cubes will be formed ?
   a) 6 b) 12 c) 16 d) 24
7. How many cubes will have 4 coloured sides and two non-coloured sides ?
   a) 8 b) 4 c) 16 d) 10
8. 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) 4
9. How many cubes will remain if the cubes having black and green coloured are removed?
   a) 4 b) 8 c) 12 d) 16

Directions 10 – 13

All the six faces of a cube of a cube are coloured with six different colours - black, brown, green, red, white and blue.

- Red face is opposite to the black face.
- Green face is between red and black faces.

- Blue face is adjacent to white face.
- Brown face is adjacent to blue face.
- Red face is in the bottom.

10. The upper face is _____
    a. White b. Black c. Brown d. None of these
11. The face opposite to brown is _____
    a. Blue b. White c. Green d. Red
12. Which of the following is adjacent to green ?
    a. Black, white, Brown, Red b. Blue, Black, red, white
    c. Red, Black, Blue, White d. None of these
13. Which face is opposite to green ?
    a. Red b. White c. Blue d. Brown

Directions 14 - 17

A cube of side 10 cm is coloured red with a 2 cm wide green strip along all the sides on all the faces. The cube is cut into 125 smaller cubes of equal size. Answer the following questions based on this statement:

14. How many cubes have three green faces each?
15. How many cubes have one face red and an adjacent face green?
16. How many cubes have at least one face coloured?
17. How many cubes have at least two green faces each?