## Ex - 54

1. Volumes of cuboids (a) $= (4 \times 5 \times 1) = 20$ cube cm

Volume of cuboids (b) $= (5 \times 1 \times 1) = 5$ cube cm

Volume of cuboid (c) $= (4 \times 4 \times 4) = 64$ cube cm

Volume of cuboid (d) $= (9 \times 2 \times 1) = 18$ cube cm

2. (a) Each edge = 5cm , Volume of the cube is $(5)^3 = 125$ cube cm

(b) Each edge = 4cm , Volume of the cube is $(4)^3 = 64$ cube m

(c) Each edge = 6 cm , Volume of the cube is $(6)^3 = 216$ cube cm

(d) Each edge = 7m , Volume of the cube is $(\ )^3 = 343$ cube cm

~~(e) Each edge , Volume of the cube is $(\ )^3$~~

3. (a) Volume of the cuboid $= (5 \times 4 \times 3) = 60$ cube m

(b) Volume of the cuboid $= (12 \times 5 \times 4) = 240$ cube m

(c) Volume of the cuboid $= (48 \times 36 \times 24) = 41472$ cube cm

4. The volume of a cuboid $= (15 \times 12 \times 10) = 1800$ cube cm

$\therefore$ The volume of the cube is $(1800 \times 3) = 5400$ cube cm

5. The volume of a cube is $(10)^3 = 1000$ cube cm

$\therefore$ The volume of the cuboid is $(1000 \times 5) = 5000$ cube cm

6. A/Q $(12)^3 \div 9 = (8 \times 6 \times 4)$

or $\frac{1728}{9} = 192$

or $192 = 192$

$\therefore$ The volume of the cube is 9 time the volume of the cuboid.

7. The volume of a cuboid : The volume of a cube

$= (48 \times 32 \times 24) : (16)^3$

$= 36864 : 4096$

$= 9 : 1$

∴ The ratio of their volume is 9 : 1.

8. The volume of the cuboidal tin is $(8 \times 4 \times 10) = 320$ cube cm

∴ 320 cube cm of oil can be pured into the tin.

9. The volume of the room is $(10 \times 6 \cdot 5 \times 5) = 325$ cube cm

∴ The volume of air in the room is 325 cube cm

10. The volume of a brick is $(25 \times 10 \times 7 \cdot 5) = 1875$ cube cm

The volume of the wall is $(15 \times 2 \cdot 5 \times 1 \cdot 25) = 46 \cdot 875$ cube m

$= 46875000$ cube cm

∴ $(46875000 \div 1875) = 25000$ bricks will be required for a wall.

11. The volume of a brick is $(18 \times 12 \times 10) = 2160$ cube cm

The volume of a wall is $(12 \times 0 \cdot 8 \times 3 \cdot 6) = 34 \cdot 56$ cube m

$= 34560000$ cube cm

∴ $(34560000 \div 2160) = 16000$ bricks will be required for a wall.

The cost of 1000 bricks = Rs. 750

∴ The total cost of bricks is $= (750 \times 16) =$ Rs. 12 000.

12. Length of the cubic godown is 17 m.

The volume of the cubic godown is $(17)^3 = 4913$ cube m

Each box requires 3·4 cube m.

$\therefore (4913 \div 3{\cdot}4) = (49130 \div 34) = 1445$ boxes can be accommodated in a cubic godown.

13. The volume of a cuboid is $(36 \times 24 \times 18) = 15552$ cube m

The volume of a cube of edge 6 m is $= (6)^3 = 216$ cube m

$\therefore (15552 \div 216) = 72$ cubes of edge 6 m can be cut from the cuboid.

14. ~~A cuboid~~ The volume of a cuboidal tank is $(30 \times 30 \times 160)$

$= 144000$ cube cm

The volume of water in the tank up to a height of 40 cm is,

$(30 \times 30 \times 40) = 36000$ cube cm

$\therefore (144000 - 36000) = 108000$ cube cm of water, the tank can contain more.

15. The volume of a smaller cube of edge 1·5 cm is $(1{\cdot}5)^3$

$= 3{\cdot}375$ cube cm

$\therefore$ The volume of 10 smaller cubes is $(3{\cdot}375 \times 10) = 33{\cdot}75$ cube cm

$\therefore$ The volume of the cubical block of gold is 33·75 cube cm.