Volume and Surface Area of Solids

A. Choose the correct answer:

1. The volume of a cube with side length a is:

a) a²	b) a³
c) 2a³	d) 4a²

2. The surface area of a cuboid with length I, breadth b, and height h is:

a) 2(lb + bh + hl)	b) lb + bh + hl
c) 4(lb + bh + hl)	d) 2(l + b + h)

3 The volume of a cylinder with radius r and height h is:

a) πr²h	b) 2πr²h
c) πr³h	d) 2πrh

4. The curved surface area of a cone with slant height I and base radius r is:

a) πr²	b) πrl
c) 2πrl	d) 2πr²

5. The volume of a sphere of radius r is:

a) $\frac{4}{3} \pi r^2$	b) $rac{4}{3}$ πr ³
c) $\frac{3}{4}\pi r^{3}$	d) $\frac{2}{3} \pi r^{3}$

B. Write the Missing Terms to Complete the Sentences:

- 1. The total surface area of a cube is ______ × side²
- 2. Volume of a cuboid = _____ × breadth × height
- 3. The curved surface area of a cylinder = _____ × radius × height
- 4. Volume of a cone = $\frac{1}{3} \times$ _____ × radius² × height
- 5. Surface area of a sphere = _____ × radius²

C. Figure out the answers to these questions:

- 1. Find the volume of a cube of side 7 cm
- 2. Find the total surface area of a cuboid of dimensions 5 cm, 3 cm, and 4 cm
- 3. A cylinder has radius 5 cm and height 10 cm Find its curved surface area
- 4. Find the volume of a cone with base radius 6 cm and height 9 cm
- 5. Find the surface area of a sphere of radius 7 cm

D. Mark each sentence with a True (\checkmark) or False (X):

- 1. Volume of a cube is equal to side³.
- 2. Surface area of a cuboid includes only two faces.
- 3. Volume of a cylinder is given by $\pi r^2 h$.
- 4. The surface area of a cone is π rl. _____
- 5. Volume of a sphere is $\frac{4}{3}\pi r^3$.

E. Challenge yourself with these questions:

- 1. Find the volume of a cuboid whose dimensions are 8 cm, 6 cm, and 5 cm.
- 2. A cone has a slant height of 10 cm and base radius of 6 cm Find its curved surface area.
- 3. Find the total surface area of a cube with side 9 cm.
- 4. Calculate the volume of a cylinder with base radius 7 cm and height 14 cm.
- 5. Find the surface area of a sphere whose radius is 10 cm.