

## Class 9<sup>th</sup> Surface Area and Volume

**1. The total surface area of a cube of side 7 cm is:**

- a) 294 cm<sup>2</sup>
- b) 343 cm<sup>2</sup>
- c) 147 cm<sup>2</sup>
- d) 210 cm<sup>2</sup>

**2. If the radius of a sphere is doubled, its volume becomes:**

- a) 2 times
- b) 4 times
- c) 6 times
- d) 8 times

**3. The volume of a cuboid with length 5 cm, breadth 4 cm, and height 3 cm is:**

- a) 60 cm<sup>3</sup>
- b) 40 cm<sup>3</sup>
- c) 20 cm<sup>3</sup>
- d) 10 cm<sup>3</sup>

**4. If the height of a cone is tripled and the radius remains the same, the volume becomes:**

- a) 3 times
- b) 6 times
- c) 9 times
- d) 12 times

**5. A cylindrical drum has a radius of 7 cm and a height of 10 cm. Find its volume.**

- a) 1540 cm<sup>3</sup>
- b) 2200 cm<sup>3</sup>
- c) 31.50 cm<sup>3</sup>
- d) none

**6. A cuboid has dimensions 5 cm × 4 cm × 3 cm. Find its total surface area.**

**7. The height of a cone is 12 cm, and the radius is 5 cm. Find its volume.**

**8. A sphere and a cylinder have the same radius of 7 cm and the same height of 14 cm. Find the ratio of their volumes.**

**9. A rectangular tank is 10 m long, 5 m wide, and 4 m high. How much water can it hold in liters?**

**10.** Mary wants to decorate her Christmas tree. She wants to place the tree on a wooden block covered with coloured paper with picture of Santa Claus on it. She must know the exact quantity of paper to buy for this purpose. If the box has length, breadth and height as 80 cm, 40 cm and 20 cm respectively. How many square sheets of paper of side 40 cm would she require?

**11.** . Three equal cubes are placed adjacently in a row. Find the ratio of total surface area of the new cuboid to that of the sum of the surface areas of the three cubes.

**12.** . A pipe fills a cuboidal tank of  $12\text{ m} \times 8\text{ m} \times 6\text{ m}$  at a rate of  $4\text{ m}^3$  per minute. How long will it take to fill the tank completely?

**13.** A conical tent is 10 m high and the radius of its base is 24 m. Find the slant height of the tent. If the cost of  $1\text{ m}^2$  canvas is Rs. 70, find the cost of the canvas required to make the tent.

**14.** A wooden toy is in the form of a cone surmounted on a hemisphere. The diameter of the base of the cone is 16 cm and its height is 15 cm. Find the cost of painting the toy at ₹7 per  $100\text{ cm}^2$ .