

Tender Heart High School, Sector 33B, Chd.

Class : IX

Subject : Maths

Date : 13.1.2025

Teacher : Ms. Reena

Topic: Volume and Surface Area of Solids

Ques 1: The square on the diagonal of a cube has an area of 192 cm^2 . Calculate

- (i) the sides of the cube in cm
- (ii) the total surface area of the cube in cm^2

[Ans 8 cm , 384 cm^2]

Ques 2: The length of a hall is 24 m and its width is 16 m . If the lateral surface area of the hall is two-third of the sum of the areas of the roof and the floor, find its height.

[Ans. 6.4 m]

Ques 3: The length of a room is 50% more than its breadth. The cost of carpeting the room at the rate of $\text{₹ } 38.50 \text{ m}^2$ is $\text{₹ } 924$ and the cost of papering the walls at $\text{₹ } 3.30 \text{ m}^2$ is $\text{₹ } 214.50$. If the room has one door of dimensions $1 \text{ m} \times 2 \text{ m}$ and two windows each of dimensions $1 \text{ m} \times 1.5 \text{ m}$, find the dimensions of the room.

[Ans. $l = 6 \text{ m}$, $b = 4 \text{ m}$, $h = 3.5 \text{ m}$]

Ques 4: A hollow square shaped tube open at both ends, is made of iron. The internal square is of 5 cm side and the length of the tube is 8 cm . There are 192 cm^3 of iron in this tube. Find its thickness.

[Ans. 1 cm]

Ques 5: Three cubes whose edges are x cm, 8 cm and 10 cm respectively are melted and recast into a single cube of edge 12 cm. Find x .

[Ans. $x = 6$]

Ques 6: The volume of a cuboidal block of silver is 10368 cm^3 . If its dimensions are in the ratio 3:2:1, find

- (i) the dimensions of the block
- (ii) the cost of gold polishing its entire surface at ₹ 0.50 per cm^2

[Ans. 12 cm, ₹ 1584]

Ques 7: The area of cross-section of a pipe is 3.5 cm^2 and water is flowing out of pipe at the rate of 40 cm/s. How much water is delivered by the pipe in one minute?

[Ans. 8.4 litres]

Ques 8: A field is 30 m long and 18 m broad. A pit 6 m long, 4 m wide and 3 m deep is dug out from the middle of the field and the earth removed is evenly spread over the remaining area of the field. Find the rise in the level of the remaining part of the field in centimetres correct to two decimal places.

[13.95]