

9 Class Math Tuition Assignment

Assignment – 13

Assigned To = All 9 Class Students

Chapter = Surface Areas and Volumes

MM = 30

Q1. The floor of a rectangular hall has a perimeter 250 m. If the cost of painting the four walls at the rate of Rs.10 per m² is Rs.15,000, find the height of the hall.

[Hint: Area of the four walls = Lateral surface area.]

Q2. The diameter of a roller is 84 cm, and its length is 120 cm. It takes 500 complete revolutions to move once over to level a playground. Find the area of the playground in m² (Assume $\pi = 22/7$).

Q3. What length of tarpaulin 3 m wide will be required to make a conical tent of height 8 m and base radius 6m? Assume that the extra length of material that will be required for stitching margins and wastage in cutting is approximately 20 cm. [Use $\pi=3.14$]

Q4. A bus stop is barricaded from the remaining part of the road by using 50 hollow cones made of recycled cardboard. Each cone has a base diameter of 40 cm and height 1 m. If the outer side of each of the cones is to be painted and the cost of painting is Rs. 12 per m², what will be the cost of painting all these cones? (Use $\pi = 3.14$ and take $\sqrt{1.04} = 1.02$)

Q5. The volume of a right circular cone is 9856cm³. If the diameter of the base is 28cm, find

(i) height of the cone

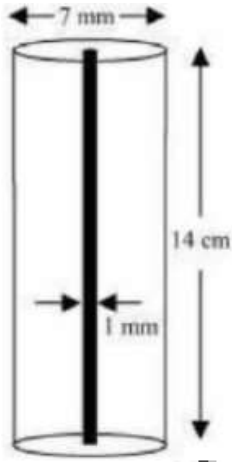
(ii) slant height of the cone

(iii) curved surface area of the cone

(Assume $\pi = 22/7$)

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Q6. A lead pencil consists of a cylinder of wood with a solid cylinder of graphite filled in the interior. The diameter of the pencil is 7 mm, and the diameter of the graphite is 1 mm. If the length of the pencil is 14 cm, find the volume of the wood and that of the graphite. (Assume $\pi = 22/7$)



Q7. A soft drink is available in two packs – (i) a tin can with a rectangular base of length 5cm and width 4cm, having a height of 15 cm and (ii) a plastic cylinder with a circular base of diameter 7cm and height 10cm. Which container has greater capacity, and by how much? (Assume $\pi=22/7$)

Q8. A sphere of radius 5 cm is immersed in water filled in a cylinder, the level of water rises $5/3$ cm. Find the radius of the cylinder.

Q9. The radius and height of a right circular cone are in the ratio 5 : 12 and its volume is 2512 cubic cm. Find the slant height and radius of the cone. (Use $\pi=3.14$)

Q10. A solid cylinder has a total surface area of 231 cm². Its curved surface area is $2/3$ of the total surface area. Find the volume of the cylinder.

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