

Class –IX CH-13 Surface Area and Volume(Maths Assignment)

- The floor of a rectangular hall has a perimeter 150 m. If the cost of painting the four walls at the rate of ₹ 10 per m² is ₹ 9000, find the height of the wall. (6m)
- The dimensions of a cuboid are in the ratio 3:2:2 and the lateral surface area of the cuboid is 200 m². The outer surface of the cuboid is painted with enamel at the rate of ₹ 10 per m². Find the total cost of painting the outer surface of the cuboid. (₹ 3200)
- If each edge of a cube is increased by 50%, find the percentage increase in the surface area (125%)
- A 4 cm edge cube is cut into small cubes each of edge 1 cm. calculate the total surface area of small cubes. Also find the ratio of total surface area of large cube to that of the small cubes (389cm², 1:4)
- A square piece of paper of side 12 cm is rolled to form a cylinder. Find the curved surface area of the cylinder. (144 cm²)
- The diameter of a roller is 84 cm and its length is 120 cm. The roller takes 150 complete revolution to move once over a playground to level it. Find the area of the playground in square meter (2376/5m²)
- The slant height and curved surface area of one cone is twice that of the other cone. Find the ratio of their radii (1:1)
- Find the ratio of the curved surface area of two cones, if their diameters of the bases are equal and slant heights are in the ratio 4:3 (4:3)
- Hemispherical dome of stupa needs to be painted. The circumference of the base of dome is 17.6 m. How much will it cost to paint the dome, if it is given that the rate of painting is Rs 100 per square metre? (₹ 4298)
- The diagonal of a cube is $\sqrt{12}$ cm. Find its volume (8 cm³)
- A cone, hemisphere and cylinder have same base, radii and equal heights. Find the ratio of their volumes. (1:2:3)
- Three cubes of melted with side 3 cm, 4 cm and 5 cm are melted and recast into single cube. Find TSA of the resulting cube
- The ratio of CSA and TSA of a right circular cylinder is 2:3 and total surface area is 14784 cm². Find its volume. (137984 cm³)
- A hemispherical bowl is made of 0.2 cm thick steel. The inner diameter of the bowl is 8 cm. Find the outer curved surface area of the bowl. Also, find the cost of polishing its outer surface at the rate of ₹ 2 per cm².
 $\pi=22/7$ (Rs 221.76)
- A rectangular water reservoir is 7.2 m by 2.5 m at the base. Water flows into it through a pipe whose cross section is 5 cm X 9 cm at the rate of 20 m per second. Find the height to which the water will rise in the reservoir in 40 minutes. (12 m)
- A cone has a volume of 1650 cm³. If height of the cone is 28 cm, then find radius, slant height and area of base of the cone. (7.5 cm $\sqrt{3361}/2$ cm, 2475/14 m²)
- The Total surface area of a solid right circular cylinder is 231 cm². Its curved surface area is two thirds of the total surface area. Find the radius and height of the cylinder. (r=3.5 cm, h=7 cm)
- Ramesh threw a party on the recovery of his injured friend from the accident. Ramesh served him and 5 others friends with chilled juice which was in cylindrically shaped cans of radius 4.2 cm and height 15 cm. Find the total volume of juice they drink and total surface area of 7 juice cans. Which value is depicted by Ramesh (Use $\pi=22/7$) (5821.2 cm³, 3538.16 cm²)
- The vertical height of a right circular conical tent is 4 m and the volume of space inside it is $138\frac{2}{7}$ m³. Find the canvas required to make the tent. Also find the cost of canvas at the rate of Rs. 120 per m².
 $22\sqrt{33}$ m², ₹ 2640 $\sqrt{3}$
- A cylindrical block is formed by placing coins of same size one above the other. The volume of block is 49.28 cm³. If the radius of each coin is 1.4 cm and thickness 0.2 cm, then find the number of coins arranged in block. (Take $\pi=22/7$) (4)