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Worksheet: Surface Areas and Volumes

1. A canal is 300 cm wide and 120 cm deep. The water in the canal is flowing with a speed of 20 km/h. How much area will it irrigate in 20 minutes if 8 cm of standing water is desired?
2. Three cubes of a metal whose edges are in the ratio 3:4:5 are melted and converted into a single cube whose diagonal is 12 3 cm. Find the edges of the three cubes.
3. The diameter of a roller is 84 cm, and its length is 120 cm. It takes 500 complete revolutions to move once over and level a playground. What is the area of the playground in m^2?
4. Two cubes each of edge 12 cm are joined end to end. What is the surface area of the new cuboid formed?
5. A metal pipe is 77 cm long. The inner diameter of its cross-section is 4 cm and the outer diameter is 4.4 cm. What is its inner curved surface area?
6. A solid metallic sphere of radius 10.5 cm is melted and recast into a number of smaller cones, each of radius 3.5 cm and height 3 cm. Find the number of cones so formed.
7. The length, breadth and height of a room is 5m, 4m and 3m. The cost of white washing its four walls at the rate of Rs. 7.50 per square meter is
8. The capacity of a cylindrical tank is 6160 cm^3. Its base diameter is 28 m. What is the depth of this tank?
9. A river 3 meters deep and 40 meters wide is flowing at the rate of 2 km per hour. How much water will fall into the sea in a minute?
10. A cylindrical pillar has a diameter of 50 cm and a height of 3.5 m. What is the cost of painting its curved surface at the rate of Rs. 12.50 per m^2?
11. The perimeter of floor of rectangular hall is 250m. The cost of the white washing its four walls is Rs. 15000. The height of the room is
12. A cone of maximum size is carved out from a cube of edge 14 cm. Find the surface area of the cone and of the remaining solid left out after the cone carved out.