

Learning Horizon

Class 9th

mathematics test

Surface area and volume

Time : 1 hr.

full marks : 20

Q1. The curved surface area of a right circular cylinder of height 14 cm is 88 cm^2 . Find the diameter of the base of the cylinder.

Q2. A metal pipe is 77 cm long. The inner diameter of a cross section is 4 cm, the outer diameter being 4.4 cm (see figure). Find its

(i) inner curved surface area.

(ii) outer curved surface area.

(iii) total surface area.

Q3. A cylindrical pillar is 50 cm in diameter and 3.5 m in height. Find the cost of painting the curved surface of the pillar at the rate of ₹12.50 per m^2 .

Q4. Curved surface area of a right circular cylinder is 4.4 m^2 . If the radius of the base of the cylinder is 0.7 m, find its height. Curved surface area of a right circular cylinder is 4.4 m^2 . If the radius of the base of the cylinder is 0.7 m, find its height.

Q5. The inner diameter of a circular well is 3.5 m. It is 10 m deep. Find

(i) its inner curved surface area.

(ii) the cost of plastering this curved surface at the rate of ₹40 per m^2 .

Q6. Diameter of the base of a cone is 10.5 cm and its slant height is 10 cm. Find its curved surface area.

Q7. Curved surface area of a cone is 308 cm^2 and its slant height is 14 cm. Find

(i) radius of the base and

(ii) total surface area of the cone.

Q8. A conical tent is 10 m high and the radius of its base is 24 m. Find

(i) slant height of the tent.

(ii) cost of the canvas required to make the tent, if the cost of 1 m^2 canvas is ₹70.

Q9. The slant height and base diameter of a conical tomb are 25 m and 14 m respectively. Find the cost of white-washing its curved surface at the rate of ₹ 210 per 100 m^2 .

Q10. Find the total surface area of a hemisphere of radius 10 cm. (Use $\pi = 3.14$)

Q11. A hemispherical bowl made of brass has inner diameter 10.5 cm. Find the cost of tin-plating it on the inside at the rate of ₹16 per 100 cm^2 .

Q12. Find the radius of a sphere whose surface area is 154 cm^2

Q13. The diameter of the Moon is approximately one-fourth of the diameter of the Earth. Find the ratio of their surface areas.

Q14. A hemispherical bowl is made of steel, 0.25 cm thick. The inner radius of the bowl is 5 cm. Find the outer curved surface area of the bowl.

Q15. The capacity of a closed cylindrical vessel of height 1 m is 15.4 litres. How many square metres of metal sheet would be needed to make it?

