

8th Maths Mensuration Test paper-4

1. Find the volume of a right circular cylinder, if the radius (r) of the base and the height (h) are : (i) $r = 7$ cm, $h = 15$ cm (ii) $r = 10.5$ cm, $h = 2$ cm (iii) $r = 2.8$ m, $h = 15$ m (iv) $r = 3.5$ m, $h = 1$ m
2. The circumference of the base of a cylindrical vessel is 132 cm and its height is 25 cm. How many litres of water can it hold?
3. The inner diameter of a wooden cylindrical pipe is 24 cm and its outer diameter is 28 cm. The length of the pipe is 35 cm. Find the mass of the pipe, if 1 cm³ of wood has mass 3 g.
4. The thickness of a metallic tube is 1 cm and its outer radius is 11 cm. Find the mass of such a 1 metre long tube, if the density of the metal is 7.5 g per cm³.
5. The rain falls 10 cm on a particular day. The rain water that falls on a roof 70 m long and 44 m wide was collected in a cylindrical tank of radius 14 m. Find (i) volume of the water that fell on the roof, (ii) rise of water level in the tank due to rain water.
6. A circular well of radius 3.5 m is dug 20 m deep, and the earth so dug is spread out on a rectangular plot of length 14 m and breadth 11 m. Find (i) volume of the earth dug out, (ii) area of the rectangular plot, (iii) height of the platform formed by spreading the earth on the rectangular plot.
7. A soft drink is available in two packs: a tin can with a rectangular base of length 5 cm and width 4 cm and having a height of 15 cm, and a plastic cylinder with circular base of diameter 7 cm and height 10 cm. Which container has greater capacity and by how much?
8. If the lateral surface of a cylinder of height 5 cm is 94.2 cm², then find (i) radius of the base, (ii) volume of the cylinder. (Take $\pi = 3.14$.)
9. It costs Rs 2200 to paint the inner curved surface of a cylindrical vessel 10 m deep. If it is painted at the rate of Rs 20 per square metre, find (i) inner curved surface of the vessel, (ii) radius of the base, (iii) capacity of the vessel.
10. The capacity of a closed cylindrical vessel of height 1 m is 15.4 l. How many square metres of metal sheet would be needed to make it?
11. A conical pit of top diameter 3.5 m is 12 m deep. What is its capacity in kilolitres?
12. The volume of a right circular cone is 9856 cm³. If the diameter of the base is 28 cm, find (i) height of the cone, (ii) slant height of the cone, (iii) curved surface area of the cone.
13. A conical tent is 9 m high with base diameter 24 m. Find the number of persons it can accommodate if each person requires (i) 2 m² space on the ground, (ii) 15 m³ space to breathe, (iii) 2 m² space on the ground and 15 m³ space to breathe.
14. A right triangle ABC with its sides 5 cm, 12 cm and 13 cm is revolved about the side 12 cm. Find the volume of the solid so obtained
15. If the triangle ABC in Question 14 above is revolved about the side 5 cm, then find the volume of the solid so obtained. Find also the ratio of the volumes of the two solids obtained.