PRACTICE TEST: CLASS-X

SURFACE AREA AND VOLUMES   X

1. If the diameter of cross section of a wire is decreased by 5% how much percent will be length be increased so that the volume remains the same?

2. How many spherical lead shots each 4.2cm in diameter can be obtained from a rectangular solid of lead with dimensions 66cm,42cm,21cm.

3. A well whose diameter is 7m has been dug 225m deep and the earth dugout is used to form an embankment around it. If the height of the embankment is 1.5m, find the width of the embankment.

4. A cylindrical pipe has inner diameter of 7cm and water flow through it at 192.5 lit per min. find the rate of flow in kilometer per hour.

5. Water is flowing at the rate of 7m per sec. through a circular pipe whose internal diameter is 2cm into a cyndrical tank of radius 40cm. determine the increase in water level in ½ hr.

6. A solid wooden toy is in the shape of a right circular cane mounted on a hemisphere. If the radius of the hemisphere is 4.2cm and the total height of the toy is 10.2 cm. find the volume of the wooden toy.

7. A right triangle, whose sides are 15cm and 20cm is made to resolve about its hypotenuse. Find the volume and surface area of the double one so formed.

8. A wooden article was made by scooping out a hemisphere from each end of a solid cylinder. If the height of the cylinder is 10cm and its base is of radius 3.5cm. Find the total surface area of the article.

9. A container open from the top, made up of metal sheet is in the form of frustum of a cone of height 16cm with radii of its lower and upper ends 8cm and 20cm respectively. Find the cost of milk which can completely fill the container at the rate of Rs. 15 per liter and the cost of metal sheet used, if the cost Rs. 5 per 100 cm^2.

10. A metallic sphere of radius 10.5 cm is melted and thus recast into small cones, each of radius 3.5cm and height 3cm find how many cones are obtained.

11. A hemispherical tank full of water is emptied by a pipe at the rate of 25/7 lit per second. How much time will it take to half empty the tank. If the tank is 3 meters in diameter.
12. The largest sphere is to be curved out of a right circular cylinder of radius 7cm and height 14cm. find the volume of the sphere.
13. A solid is in the form of cylinder with hemispherical ends. Total height of the solid is 19cm and the diameter of the cylinder is 7cm. find the volume and total surface area of the solid.
14. The slant height of the frustum of a cone is 5cm. if the difference between the radii of its two circular ends is 4cm. find the height.
15. The height of the cone is 30cm. a small cone is cut off at the top by plane parallel to the base. If its volume be 1/27 of the volume of the given cone, at what height above the base is section made.