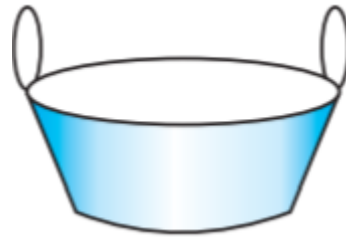


Class: X Mathematics- Worksheet- chapter 13

Answer the following :

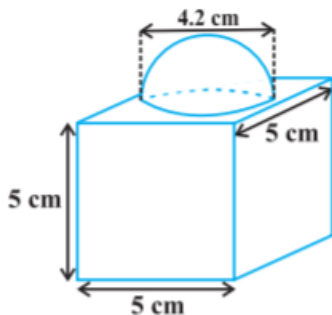
1. The diameter of a metallic sphere is 6 cm. The sphere is melted and drawn into a wire of uniform cross section. If the length of the wire is 36 m, find its radius. (0.1cm)
2. A right circular cone of radius 3 cm had a curved surface area of 47.1 sq.cm. find the volume of the cone. (37.68)
3. A 20 cm deep well with diameter 7 m is dug and the earth from digging is evenly spread out to form a platform 22 m by 14 m. Find the height of the platform. (2.5 m).
4. Water is flowing at a rate of 3 km/hr through a circular pipe of 20 cm internal diameter into a circular cistern of diameter 10 m and depth 2 m. In how many hours will the cistern be filled? (1 hr 40 mins or $5/3$ hrs.)
5. Water is flowing at the rate of 7 m per second through a circular pipe whose internal diameter is 2 cm into a cylindrical tank the radius of whose base is 40 cm. Determine the increase in the water level in $1/2$ hrs. (787.5 cm)
6. How many balls, each of radius 1 cm, can be made from a solid sphere of lead of radius 8 cm? (512)
7. A circular tent is cylindrical upto a height of 3m and conical above it. If the diameter of the base is 105 m and the slant height of the conical part is 53 m, find the total canvas used in making the tent. (9735)
8. A cylindrical container of radius 6 cm and height 15 cm is filled with ice-cream. The whole ice cream has to be distributed to 10 children in equal cones with hemispherical tops. If the height of the conical portion is four times the radius of its base, find the radius of the ice-cream cone. ($r=3$ cm).
9. A solid toy is in the form of a hemisphere surmounted by a right circular cone. Height of the cone is 2 cm and the diameter of the base is 4cm. If a right circular cylinder circumscribes the solid. Find how much more space it will cover. (8×3.14)

10. A container shaped like a right circular cylinder having diameter 12 cm and height 15 cm is full of ice cream. The ice cream is to be filled into cones of height 12 cm and diameter 6cm, having a hemispherical shape on the top. Find the number of such cones. (10).71.
11. Hanu and his wife Ganga are busy making jaggery out of sugarcane juice. They have processed the sugar cane juice to make the molasses, which is poured into moulds in the shape of a frustum of a cone having the diameters of its two circular faces as 30cm and 35 cm and the vertical height of the mould is 14 cm. If each cm^3 of molasses has mass about 1.2 g, find the mass of the



molasses. (1641.7 and 14 kg.)

12. A metallic right circular cone 20 cm high and whose vertical angle is 60° is cut into two parts at the middle of its height by a plane parallel to its base. If the frustum so obtained be drawn into a wire of diameter $\frac{1}{16}$ cm, find the length of the wire. (7964.4)
13. A decorative block shown in fig., is made of two solids- a cube



and a hemisphere. The base of the block is a cube with edge 5 cm, and the hemisphere fixed on the top has a diameter 4.2 cm. Find the total surface area of the block. (163.86).

14. A cone of height 24 cm and radius of base 6 cm is made up of modelling clay. A child reshapes it in the form of a sphere. Find the radius of the sphere.
15. The rain water from a roof of 22 m x 20 m drains into a cylindrical vessel having diameter of base 2 m and height 3.5 m. If the vessel is just full, find the rain fall in cm. (2.5)