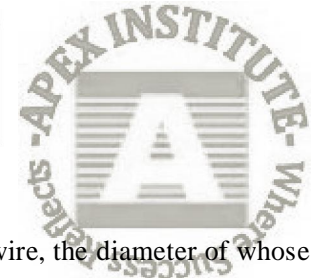
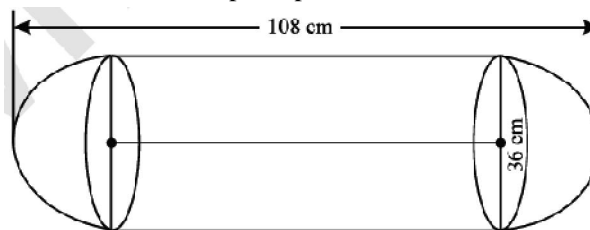


Time -1Hr

M.M. -30

- The height of a cone is 30 cm. A small cone is cut off at the top by a plane parallel to its base. If its volume be $\frac{1}{27}$ of the volume of the given cone, at what height above the base is the section made?
- A circus tent consists of a cylindrical base surmounted by a conical roof. The radius of the cylinder is 20 m. The height of the tent is 63 m and that of the cylindrical base is 42 m. Find the volume of air contained in the tent and the area of canvas used for making it.
- How many litres of water flows out of pipe having an area of cross-section of 5 cm^2 in one minute, if the speed of water in the pipe is 30 cm/sec ?
- A sphere of diameter 6 cm is dropped into a cylindrical vessel partly filled with water. The radius of the vessel is 6 cm. If the sphere is completely submerged in water, find by how much will the surface level of water be raised.
- An ice-cream cone has a hemispherical top. If the height of the conical portion is 9 cm and base radius 2.5 cm, find the volume of ice-cream in the ice-cream cone. use $\pi = \frac{22}{7}$
- In the given figure, a solid is made of a cylinder with hemispherical ends. If the entire length of the solid is 108 cm and the diameter of the hemispherical ends is 36 cm, find the cost of polishing the surface of the solid at the rate of 7 paisa per cm^2 .



- A spherical copper ball of diameter 9 cm is melted and drawn into a wire, the diameter of whose thickness is 2 mm. Find the length of the wire in meters.
- The difference between the inside and outside surfaces of a cylindrical water pipe 14 m long is 88 m^2 . If the volume of pipe be 176 m^3 . Find the inner and outer radii of the water pipe.
- Water is flowing at the rate of 2.5 km/hr through a circular pipe 20 cm internal diameter, into a circular cistern of diameter 20 m and depth 2.5 m. In how much time will the cistern be filled?
- A conical vessel of radius 6 cm and height 8 cm is filled with water. A sphere is lowered into the water (see figure), and its size is such that when it touches the sides of the conical vessel, it is just immersed. How much water will remain in the cone after the overflow?

