

CLASS 10 · HOTS · OLYMPIAD PREPARATION · DPP SHEET

Chapter 12: HOTS: Surface Areas and Volumes (Class 10)

Daily practice problems: 8 questions with an answer key

Try every question on your own first. The answer key is on the last page.

1. A toy is a cone of base radius 3 cm and height 4 cm with a hemisphere of the same radius on its flat face. Find the total surface area in terms of π .
2. A metallic sphere of radius 6 cm is melted and drawn into a wire of circular cross-section of radius 0.5 cm. Find the length of the wire.
3. A cylindrical bucket of radius 12 cm and height 18 cm is emptied to make a conical heap of height 24 cm. Find the radius and the slant height of the heap.
4. A cuboid of dimensions 11 cm by 7 cm by 8 cm is melted and recast into a cylinder of radius 7 cm. Find the height of the cylinder.
5. A frustum has radii 14 cm and 7 cm and height 12 cm. Find its volume.
6. Find the total surface area of a solid hemisphere of radius 7 cm.
7. The volume of a cone is 1232 cubic cm and its base radius is 14 cm. Find its height.
8. Water flows through a pipe of diameter 20 cm at 3 km/h into a cylindrical tank of radius 10 m. By how much does the water level rise in 30 minutes?

Answer Key

1. 33π square cm.
2. 1152 cm, which is 11.52 m.
3. Radius 18 cm and slant height 30 cm.
4. 4 cm.
5. 4312 cubic cm.
6. 462 square cm.
7. 6 cm.
8. 15 cm.

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