

CLASS 9 · HOTS · OLYMPIAD PREPARATION · DPP SHEET

Chapter 14: HOTS: Surface Area and Volume (Class 9)

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 cone has base radius 6 cm and height 8 cm. Find its slant height, curved surface area and volume in terms of π .
2. A cuboid 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.
3. The total surface area of a solid hemisphere is 154 square cm. Find its radius (take $\pi = \frac{22}{7}$).
4. The radius of a sphere is tripled. By what factor do its surface area and volume change?
5. How many metres of cloth 5 m wide are needed for a conical tent of base radius 7 m and slant height 12.5 m? (Take $\pi = \frac{22}{7}$.)
6. A cube of side 6 cm is melted and cast into 27 equal small cubes. Find the side of each small cube.
7. Find the volume of a cylinder of radius 7 cm and height 10 cm, and its total surface area.
8. A solid sphere of radius 3 cm is melted and made into a cone of base radius 3 cm. Find the height of the cone.

Answer Key

1. 10 cm, 60π square cm and 96π cubic cm.
2. 4 cm.
3. $\sqrt{\frac{154 \times 7}{66}} = \sqrt{\frac{49}{3}} \approx 4.04$ cm.
4. 9 times and 27 times.
5. 55 m.
6. 2 cm.
7. 1540 cubic cm and 748 square cm.
8. 12 cm.

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