



Class 10 Mathematics | Surface Areas And Volumes

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. A cone and cylinder have the same radius and height. Their volume ratio cone:cylinder is:

A. 1:3 B. 2:3 C. 1:2 D. 3:1

2. A cylinder of radius 3 cm and height 10 cm has volume:

A. $60\pi \text{ cm}^3$ B. $300\pi \text{ cm}^3$ C. $30\pi \text{ cm}^3$ D. $90\pi \text{ cm}^3$

3. A cone of radius 6 cm and height 8 cm has slant height:

A. 14 cm B. 10 cm C. 2 cm D. $\sqrt{28}$ cm

4. A sphere of radius 6 cm is melted into spheres of radius 2 cm. Number formed is:

A. 9 B. 3 C. 27 D. 18

5. A hemisphere of radius 3 cm has volume:

A. $27\pi \text{ cm}^3$ B. $36\pi \text{ cm}^3$ C. $9\pi \text{ cm}^3$ D. $18\pi \text{ cm}^3$

6. A cylinder and hemisphere share radius r ; cylinder height is h . Combined solid volume is:

A. $\pi r^2 h + 4\pi r^3/3$ B. $\pi r^2 h + \pi r^3/3$
C. $\pi r^2 h + 2\pi r^3/3$ D. $2\pi r h + 2\pi r^2$

7. A cone is joined to a cylinder at equal circular bases. The common base contributes to external area:

A. two base areas B. one base area
C. half a base area D. zero

8. A cube of edge 6 cm is melted into cubes of edge 2 cm. Number formed is:

A. 9 B. 3 C. 18 D. 27

9. Cylinder radius is doubled and height halved. Volume becomes:

A. 4 times B. unchanged C. half D. 2 times

10. A cone has radius 3 cm and slant height 5 cm. Curved surface area is:

A. $24\pi \text{ cm}^2$ B. $15\pi \text{ cm}^2$ C. $30\pi \text{ cm}^2$ D. $9\pi \text{ cm}^2$

11. A solid hemisphere of radius 4 cm has total area:

A. $32\pi \text{ cm}^2$ B. $48\pi \text{ cm}^2$ C. $16\pi \text{ cm}^2$ D. $64\pi \text{ cm}^2$

12. A cylindrical tank has base area 50 cm^2 and water depth 12 cm. Water volume is:

A. 62 cm^3 B. 1200 cm^3 C. 600 cm^3 D. 300 cm^3

13. Two identical hemispheres joined at bases form a sphere. Its exposed area is:

A. $4\pi r^2$ B. $6\pi r^2$ C. $8\pi r^2$ D. $2\pi r^2$

14. A 3 cm radius sphere is melted into a cone of radius 3 cm. Cone height is:

A. 12 cm B. 9 cm C. 6 cm D. 4 cm

15. A cylinder of radius 2 cm and height 6 cm surmounted by a hemisphere of radius 2 cm has volume:

A. $88\pi/3 \text{ cm}^3$ B. $32\pi \text{ cm}^3$
C. $24\pi \text{ cm}^3$ D. $80\pi/3 \text{ cm}^3$

ANSWER KEY — check after completing all 15 questions

1.A 2.D 3.B 4.C 5.D 6.C 7.D 8.D 9.D 10.B 11.B 12.C 13.A 14.A 15.A