

CHAPTER-11 | : Surface Areas and Volumes

QUIZ
PART-6

1. The surface area of a sphere is:

- A. $4\pi r^2$
B. $2\pi r^2$
C. πr^2
D. $2\pi r l$ (A)

Explanation: The surface area of a sphere is $4\pi r^2$.

2. If the radius of a sphere is doubled, the surface area becomes:

- A. 2 times
B. 3 times
C. 4 times
D. 8 times (C)

Explanation: If the radius is doubled, the surface area increases by 4 times (since surface area depends on r^2).

3. The surface area of a hemisphere is:

- A. $2\pi r^2$
B. $3\pi r^2$
C. $4\pi r^2$
D. πr^2 (B)

Explanation: The total surface area of a hemisphere is $3\pi r^2$ (including the base).

4. The curved surface area of a hemisphere is:

- A. πr^2
B. $2\pi r^2$
C. $3\pi r^2$
D. $4\pi r^2$ (B)

Explanation: The curved surface area of a hemisphere is $2\pi r^2$.

5. The total surface area of a sphere with radius 7 cm is:

- A. 4224 cm^2
B. 2244 cm^2
C. 2464 cm^2
D. 4664 cm^2 (A)

Explanation: Using the formula $4\pi r^2$, the surface area of a sphere with radius 7 cm is 4224 cm^2 .

6. The surface area of a sphere with a diameter of 28 cm is:

- A. 4224 cm^2
B. 2244 cm^2
C. 2464 cm^2
D. 4664 cm^2 (A)

Explanation: The surface area is calculated as $4\pi r^2$, where $r = 14 \text{ cm}$ (half the diameter).

7. A hemispherical dome has a base circumference of 17.6 m. The cost of painting it is ₹5 per 100 cm^2 . The cost to paint the dome is:

- A. ₹700
B. ₹800
C. ₹500
D. ₹1000 (A)

Explanation: The cost is calculated by finding the surface area of the hemisphere and applying the given painting rate.

8. The volume of a sphere is given by the formula:

- A. $\frac{4}{3}\pi r^3$
B. $\frac{2}{3}\pi r^2$
C. $\pi r^2 h$
D. $4\pi r^2 h$ (A)

Explanation: The volume of a sphere is $\frac{4}{3}\pi r^3$.

9. The slant height of a conical tent with a height of 10 m and base radius of 24 m is:

- A. 25 m
B. 26 m
C. 24 m
D. 20 m (A)

Explanation: The slant height is calculated using the Pythagorean theorem: $\sqrt{(h^2 + r^2)}$.

10. A hollow sphere used in a circus has a diameter of 7 m. The available area for riding is:

- A. 38.5 m^2
B. 49 m^2
C. 154 m^2
D. 77 m^2 (B)

Explanation: The area available is calculated by finding the surface area of the sphere's interior.