Surface Area and Volume (Easy Questions)

Cube

1. Find the surface area of a cube whose edge is 6 cm.
2. If the total surface area of a cube is 384 cm^2, find the length of its edge.
3. Calculate the volume of a cube with a side 5 cm.

Cuboid

4. A cuboid has dimensions 6 cm × 4 cm × 2 cm. Find its total surface area.
5. If the volume of a cuboid is 300 cm^3 and its base area is 50 cm^2, find its height.
6. A cuboid's length, breadth, and height are 8 cm, 6 cm, and 10 cm, respectively. Find its volume.

Sphere

7. Find the surface area of a sphere of radius 7 cm.
8. A sphere has a surface area of 616 cm^2. Find its radius.
9. Calculate the volume of a sphere whose radius is 5 cm.

Hemisphere

10. Find the total surface area of a hemisphere with radius 7 cm.
11. Calculate the volume of a hemisphere of radius 10 cm.
12. A hemisphere has a curved surface area of 308 cm^2. Find its radius.

Cylinder

13. Find the curved surface area of a cylinder with radius 3 cm and height 5 cm.
14. A cylindrical container has a base radius of 7 cm and height 10 cm. Find its volume.
15. The total surface area of a cylinder is 462 cm^2, and its height is 7 cm. Find the radius.

Cone

16. Find the slant height of a cone whose radius is 6 cm and height is 8 cm.
17. A cone has a base radius of 3 cm and height 4 cm. Find its volume.
18. The curved surface area of a cone is 132 cm^2, and its slant height is 12 cm. Find the radius of its base.

Combination of Solids

19. A solid metallic sphere of radius 7 cm is melted and recast into smaller spheres of radius 1 cm. Find the number of smaller spheres formed.
20. A toy consists of a cone mounted on a hemisphere. If the radius of both is 3 cm and the height of the cone is 4 cm, find the total surface area of the toy.

Surface Area and Volume - Moderate Questions

1. Surface Area

1. Find the total surface area of a cube with side length 7 cm.
2. A cuboid has dimensions 8 cm × 6 cm × 5 cm. Calculate its total surface area.
3. Find the curved surface area of a cylinder with radius 3.5 cm and height 10 cm.
4. A cone has a radius of 6 cm and slant height of 10 cm. Calculate its curved surface area.
5. A sphere has a radius of 7 cm. Find its surface area.
6. A hemisphere has a radius of 14 cm. Find its curved and total surface area.
7. Find the lateral surface area of a cone whose height is 12 cm and radius is 5 cm.
8. A cuboid has a total surface area of 88 cm^2 and dimensions 4 cm × 2 cm × h. Find the height hhh.

2. Volume

9. Find the volume of a cube with side length 9 cm.
10. A cuboid has dimensions 12 cm × 8 cm × 4cm. Calculate its volume.
11. Calculate the volume of a sphere with radius 5 cm.
12. A cylinder has a radius of 3 cm and height of 7 cm. Find its volume.
13. Find the volume of a cone with radius 4 cm and height 9 cm.
14. A hemisphere has a radius of 10 cm. Find its volume.

3. Combined Shapes

15. A solid metallic sphere of radius 7 cm is melted to form a cone of height 28 cm. Find the radius of the cone.
16. A cylindrical vessel of radius 10 cm and height 15 cm is completely filled with water. Find the number of spherical balls of radius 2.5 cm that can be made from the water.
17. A cone has a base radius of 3 cm and height 4 cm. It is melted and recast into a sphere. Find the radius of the sphere.
18. A toy is in the form of a hemisphere surmounted by a cone. The hemisphere has a radius of 3.5 cm, and the height of the cone is 4 cm. Find the total surface area of the toy.

4. Real-Life Applications

19. A well with a radius of 2 m and a depth of 14 m is dug, and the soil removed is spread evenly on a rectangular plot measuring 40 m × 11 m. Find the height of the soil layer.
20. A solid metallic cylinder with a radius of 6 cm and height of 12 cm is melted to form 8 smaller spheres of equal radii. Find the radius of each sphere.