

Basic Concepts

1. Surface area of a cuboid of dimensions $l \times b \times h$ is $2(lb + bh + hl)$.
2. Lateral surface area of a cuboid of dimensions $l \times b \times h$ is $2h(l + b)$.
3. Surface area of a cube of edge a is $6a^2$.
4. Lateral surface area of a cube of edge a is $4a^2$.
5. Length of the diagonal of a cuboid of dimensions $l \times b \times h$ is $\sqrt{l^2 + b^2 + h^2}$.
6. Length of the diagonal of a cube of edge a is $a\sqrt{3}$.
7. Curved surface area of a cylinder of base radius r and height h is $2\pi rh$.
8. Total surface area of a cylinder of base radius r and height h is $2\pi rh + 2\pi r^2 = 2\pi r(r + h)$.
9. Curved surface area of a cone of base radius r and slant height l is πrl .
10. $l^2 = r^2 + h^2$, where l, r and h are the slant height, base and height of the cone respectively.
11. Total surface area of a cone of base radius, r and slant height l is $\pi r(l + r)$.
12. Surface area of a sphere of radius r is $4\pi r^2$.
13. Curved surface area of a hemisphere of radius r is $2\pi r^2$.
14. Total surface area of a hemisphere of radius r is $3\pi r^2$.
15. The volume of an object is the measure of the space it occupies.
16. The capacity of an object is the volume of substance its interior can accommodate.
17. Volume of cuboid of dimensions, $l \times b \times h$ is lbh units.
18. Volume of a cube of edge a is a^3 cubic units.
19. Volume of a right circular cylinder of base radius r and height $h =$ area of base \times height $= \pi r^2 h$.
20. Volume of a right circular cone of base radius r and height h is $\frac{1}{3}\pi r^2 h$.
21. Volume of a sphere of radius r is $\frac{4}{3}\pi r^3$.
22. Volume of a hemisphere of radius r is $\frac{2}{3}\pi r^3$.