

APTITUDE - VOLUME CALCULATION

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Important Fact and Formulae

Following are important facts and formulae used in questions for volume calculations.

Cuboid

Let Length=L, Breath =b and Height =h units. Then,

- Volume = (L*b*h) cubic units.
- Surface area=2(Lb+bh+Lh) sq. units.
- Diagonal = $\sqrt{L^2+b^2+h^2}$ units.

Cube

Let each edge of a cube be of length a. Then,

- Volume= a^3 cubic units.
- Surface area= $6a^2$ sq. units.
- Diagonal= $\sqrt{3}a$ units.

Cylinder

Let radius of base = r and Height (or length) =h. Then,

- Volume = ($\pi r^2 h$) cubic units.
- Curved surface area= ($2\pi r h$) sq. units.
- Total surface area= ($2\pi r h+2\pi r^2$) sq. units. = $2\pi r (h+r)$ sq. units.

Cone

Let radius of base=r and Height (or length) = h. Then,

- Slant height= $\sqrt{h^2+r^2}$ units.
- Volume = ($1/3 \pi r^2 h$) cubic units.
- Curved surface area = ($\pi r L$) sq. units.
- Total surface area = ($\pi r L+ \pi r^2$) sq. units.

Sphere

Let the radius of the sphere be r. then,

- Volume = ($4/3 \pi r^3$) cubic units.
- Surface area =($4\pi r^2$) Sq. unit

Hemisphere

Let the radius of the hemisphere be r . then,

- (i) Volume = $(\frac{2}{3}\pi r^3)$ cubic units
- (ii) Curved surface area = $(2\pi r^2)$ Sq. unit
- (ii) Total surface area = $3\pi r^2$ sq. unit.

Note:

1 litre = 1000cm^3

Solved Examples

[Solved Examples](#)