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Solids	Lateral Area	Total Area	Volume
Cube	$\mathbf{A_{LAT} = 4s^2}$	$\mathbf{A_{TOT} = 6s^2}$	$\mathbf{V = s^3}$
Cylinder	A_{LAT} = (circumference of base) * (height) $A_{LAT} = C_b * h$ $\mathbf{A_{LAT} = 2 \pi r h}$	$A_{TOT} = A_{LAT} + 2A_b$ $\mathbf{A_{TOT} = 2 \pi r h + 2 \pi r^2}$	V = (area of base) * (height) $V = A_b * h$ $\mathbf{V = \pi r^2 h}$
Prism	A_{LAT} = (perimeter of base) * (height) $\mathbf{A_{LAT} = P_b * h}$	$\mathbf{A_{TOT} = A_{LAT} + 2A_b}$	V = (area of base) * (height) $\mathbf{V = A_b * h}$
Cone	$A_{LAT} = \frac{\text{(circumference of base) * (slant height)}}{2}$ $A_{LAT} = \frac{C_b * s}{2}$ $\mathbf{A_{LAT} = \pi r s}$	$A_{TOT} = A_b + A_{LAT}$ $\mathbf{A_{TOT} = \pi r^2 + \pi r s}$	$V = \frac{\text{(area of base) * (height)}}{3}$ $V = \frac{A_b * h}{3}$ $\mathbf{V = \frac{\pi r^2 h}{3}}$
Pyramid	$A_{LAT} = \frac{\text{(perimeter of base) * (slant height)}}{2}$ $\mathbf{A_{LAT} = \frac{P_b * s}{2}}$	$A_{TOT} = A_b + A_{LAT}$ $\mathbf{A_{TOT} = A_b + \frac{P_b * s}{2}}$	$V = \frac{\text{(area of base) * (height)}}{3}$ $\mathbf{V = \frac{A_b * h}{3}}$
Sphere	$\mathbf{A_{LAT} = A_{TOT} = 4 \pi r^2}$	$\mathbf{A_{LAT} = A_{TOT} = 4 \pi r^2}$	$\mathbf{V = \frac{4 \pi r^3}{3}}$

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- Sometimes **apothem** is used instead of **slant height**.
- Remember that the circumference of a cone and that of a cylinder correspond to the circumference of a circle ($C_b = 2 \pi r$) or ($C_b = \pi d$).
- Remember that the area of the base of a cone and that of a cylinder correspond to the area of a disk ($A_b = \pi r^2$).
- Remember that the diameter of a circle is double its radius (d = 2r).
- You need to memorise the following formulas to calculate the area of different polygons:

Triangle: $A = \frac{b * h}{2}$

Rectangle: $A = b * h$ (or $l * w$)

Parallelogram: $A = b * h$

Rhombus: $A = \frac{D * d}{2}$

Trapezoid: $A = \frac{(B + b) * h}{2}$

Regular polygon: $A = \frac{(\text{perimeter of base}) * (\text{apothem})}{2}$

$A = \frac{P * a}{2}$