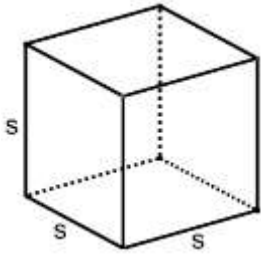


# Volume ( $V$ ) and Surface Area ( $SA$ )

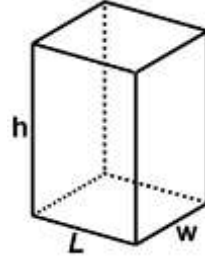
**Cube**



$$V = s^3$$

$$SA = 6s^2$$

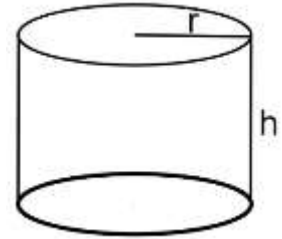
**Rectangular Prism**



$$V = l \cdot w \cdot h$$

$$SA = 2(lw + lh + wh)$$

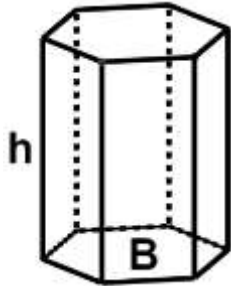
**Cylinder**



$$V = \pi r^2 h$$

$$SA = 2\pi r^2 + 2\pi r h$$

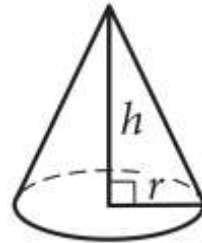
**Regular Prism**



$$V = B \cdot h$$

$$SA = 2B + P \cdot h$$

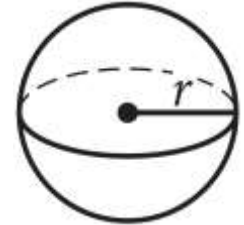
**Cone**



$$V = \frac{1}{3} \pi r^2 h$$

$$SA = \pi r^2 + \pi r^2 \sqrt{r^2 + h^2}$$

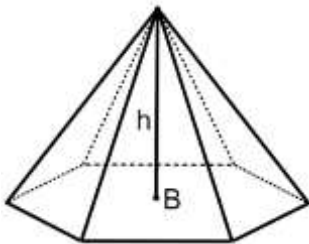
**Sphere**



$$V = \frac{4}{3} \pi r^3$$

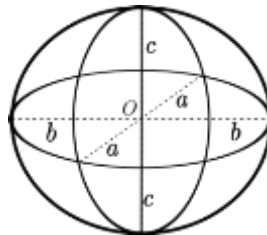
$$SA = 4\pi r^2$$

**Pyramid**



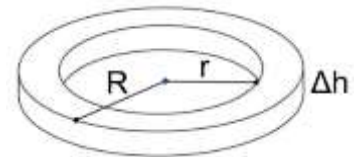
$$V = \frac{1}{3} B \cdot h$$

**Ellipsoid**



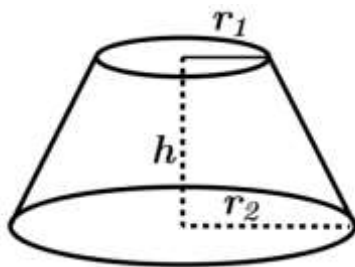
$$V = \frac{4}{3} \pi abc$$

**Washer**



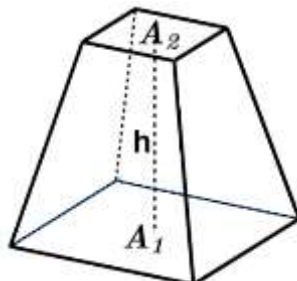
$$V = \pi(R^2 - r^2)\Delta h$$

**Frustum of a Cone**



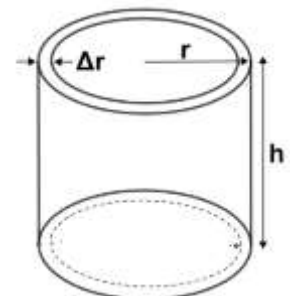
$$V = \frac{1}{3} \pi(r_1^2 + r_2^2 + r_1 r_2)h$$

**Frustum of a Pyramid**



$$V = \frac{1}{3} (A_1 + A_2 + \sqrt{A_1 A_2})h$$

**Cylindrical Shell**



$$V = 2\pi r h \cdot \Delta r$$