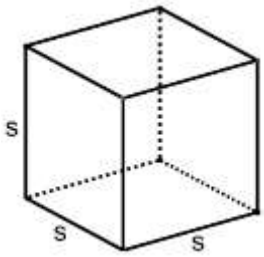
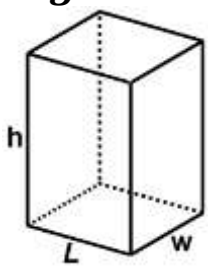
Volume (V) and Surface Area(SA)

Cube



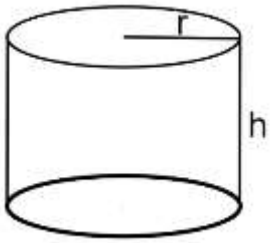
$$V = s^3$$
$$SA = 6s^2$$

Rectangular Prism



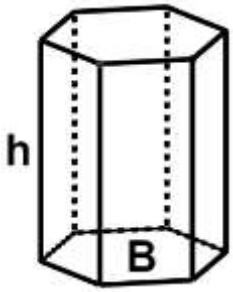
$$V = l \cdot w \cdot h$$
$$SA = 2(lw + lh + wh)$$

Cylinder



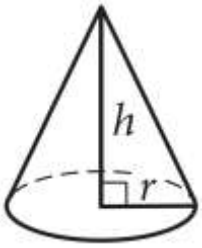
$$V = \pi r^2 h$$
$$SA = 2\pi r^2 + 2\pi rh$$

Regular Prism



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

Cone

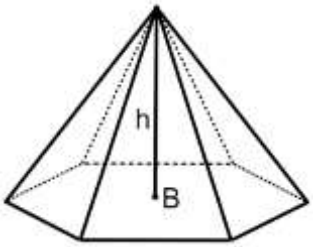


$$V = \frac{1}{3}\pi r^2 h$$
$$SA = \pi r^2 + \pi r^2\sqrt{r^2 + h^2}$$

Sphere

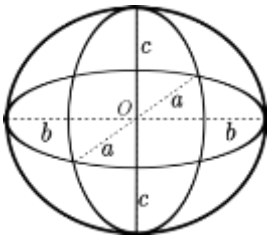
$$V = \frac{4}{3}\pi r^3$$
$$SA = 4\pi r^2$$

Pyramid



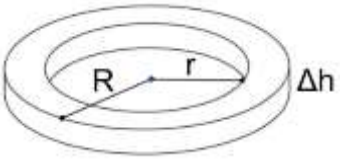
$$V = \frac{1}{3}B \cdot h$$

Ellipsoid



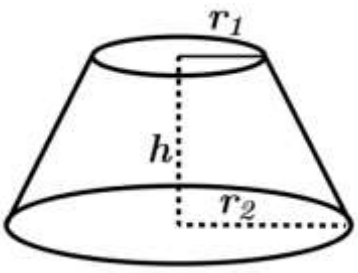
$$V = \frac{4}{3}\pi abc$$

Washer



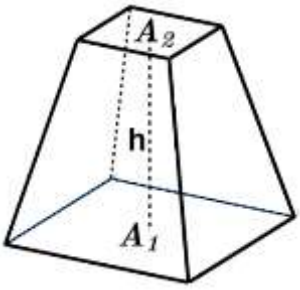
$$V = \pi(R^2 - r^2)\Delta h$$

Frustum of a Cone



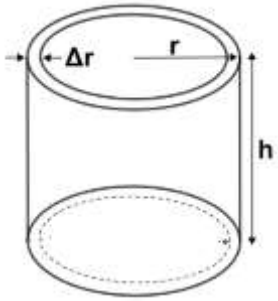
$$V = \frac{1}{3}\pi\left(r_1^2 + r_2^2 + r_1 r_2\right)h$$

Frustum of a Pyramid



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

Cylindrical Shell



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