

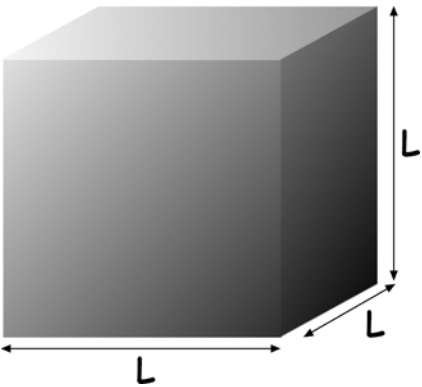
3D Solids

CUBE

$$V_{cube} = L^3$$

$$SA_{cube} = 6L^2$$

6 surfaces, 6 faces
12 edges, 8 vertices

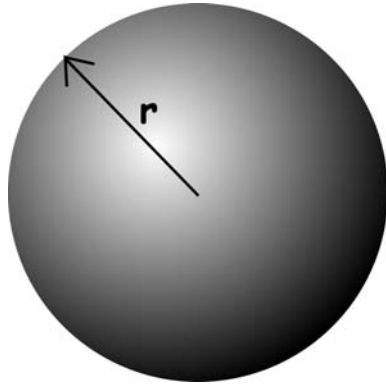


SPHERE

$$V_{sphere} = \frac{4}{3}\pi r^3$$

$$SA_{sphere} = 4\pi r^2$$

1 surface, 0 faces
0 edges, 0 vertices



GENERAL PRISM

$$V_{prism} = L \times \text{base area}$$

$$SA_{prism} = 2 \times \text{base area} + L \times \text{base perimeter}$$

Surfaces: 2 + number of base sides

Faces: 2 + number of base sides

Edges: 3 × number of base sides

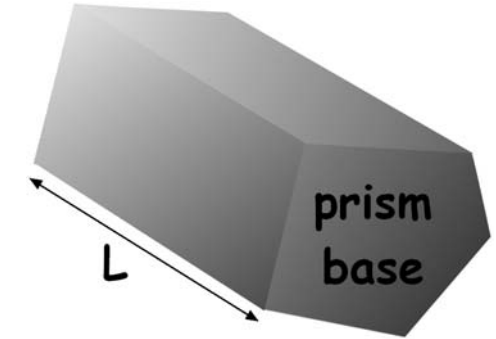
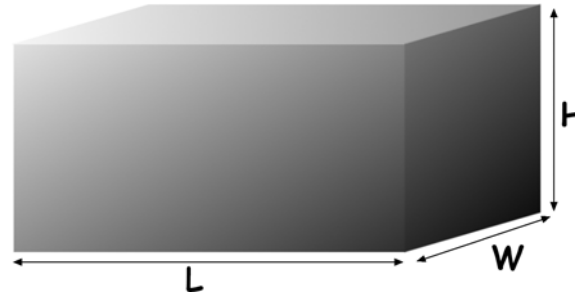
Vertices: 2 × number of base sides

RECTANGULAR PRISM

$$V_{rect.prism} = L \times H \times W$$

$$SA_{rect.prism} = 2(LW + LH + HW)$$

6 surfaces, 6 faces
12 edges, 8 vertices



PYRAMID

$$V_{pyramid} = \frac{1}{3} \times \text{base area} \times \text{height}$$

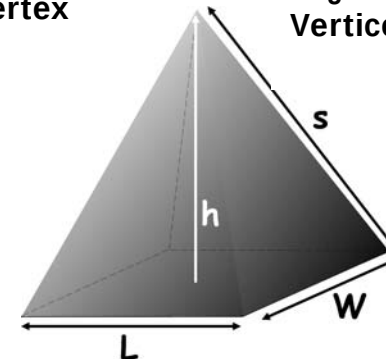
$$SA_{pyramid} = \text{base area} + \text{triangular side areas}$$

Surfaces: 1 + number of base sides

Faces: 1 + number of base sides

Edges: 2 × number of base sides

Vertices: 1 + number of base sides



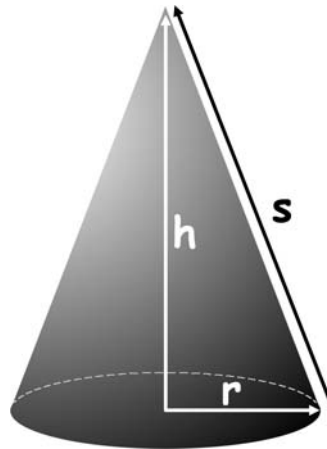
CONE

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

$$SA_{cone} = \pi r(r + s)$$

2 surfaces, 1 face

0 edges, 1 vertex



CYLINDER

$$V_{cylinder} = \pi r^2 h$$

$$SA_{cylinder} = 2\pi r(r + h)$$

3 surfaces, 2 faces
0 edges, 0 vertices

