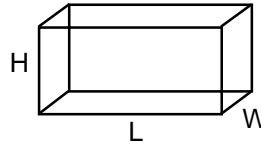# Math Study Strategies

Volumes

A solid is a three-dimensional figure. It has length, width, and height. The volume of a solid figure is measured in cubic units or equivalents. Cubic units are represented by placing a "3" exponent on the unit. For example, cubic inches is represented by in^3.
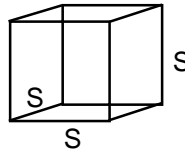
Formulas for Volume

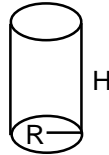**Volume of a Rectangular Solid**

$V = L \times W \times H$

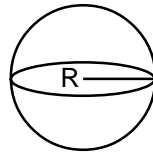**Volume of a Cube**

$V = S^3$

Volume of a Cylinder

$V = \pi \times R^2 \times H$

Volume of a Sphere

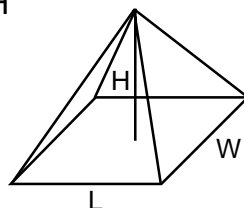$V = \dfrac{4}{3} \times \pi \times R^3$

Volume of a Cone

$V = \dfrac{1}{3} \times \pi \times R^2 \times H$

Volume of a Pyramid

$V = \dfrac{1}{3} \times L \times W \times H$

Cubic Units

Each small cube below represents a cubic unit. There are 10 x 10 x 10 = 1000 small cubes in the larger cube, so the volume of the larger cube is 1000 cubic units.

Small Cube

10

10

10

Large Cube