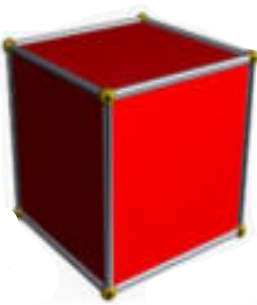
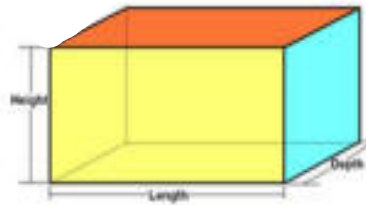


The name game :)



Cube

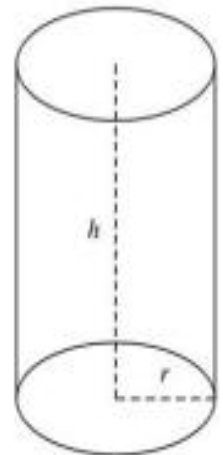
*same
(dimensions)*



Rectangular Prism



Sphere



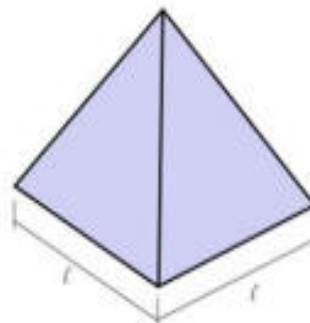
Cylinder



Triangular Prism



Cone

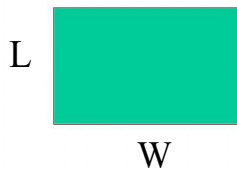


Pyramid

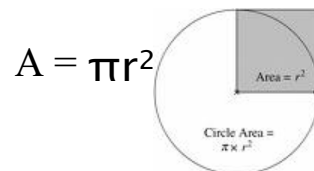
Area of Shapes

Area of a Rectangle

A = length x width



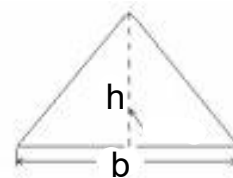
Area of a Circle



$$A = \pi r^2$$

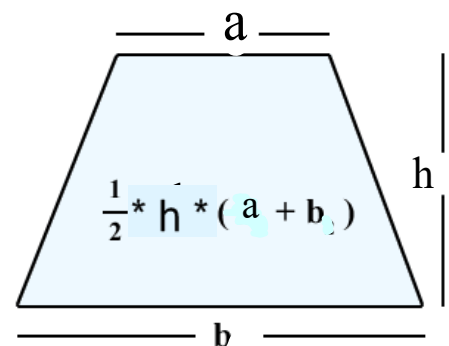
Area of Triangle

$$A = \frac{1}{2} (\text{base} \times \text{height})$$



Area of Trapezoid

$$A = \frac{1}{2} \text{height} (a + b)$$



Volume of Containers

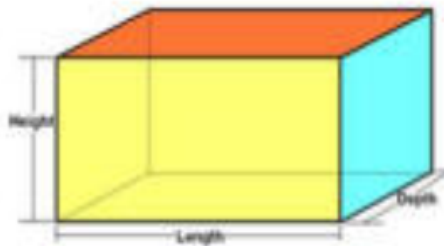
To save money volume should be close as possible to the volume of the product

We have to use cross-sections to help determine the area and volume of a container

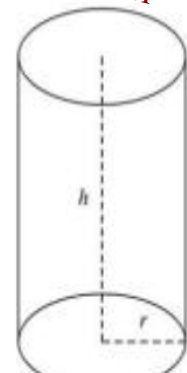
Prisms



Triangular Prism



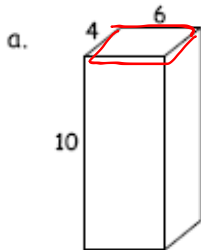
Rectangular Prism



Cylinder

$$\text{Volume} = (\text{Area of the base}) \times \text{Height}$$

Find the volumes (dimensions are cm):

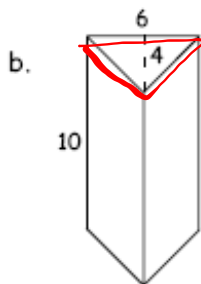


$$a) V = \underline{\text{Area of Base}} \times \text{height}$$

$$V = l \times w \times h$$

$$V = 4 \times 6 \times 10$$

$$V = 240 \text{ cm}^3$$

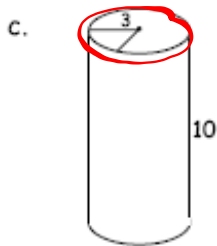


$$b) V = \underline{\text{Area of Base}} \times \text{height}$$

$$V = \frac{1}{2}(b \times h) \times h$$

$$V = \frac{1}{2}(6 \times 4) \times 10$$

$$V = 120 \text{ cm}^3$$



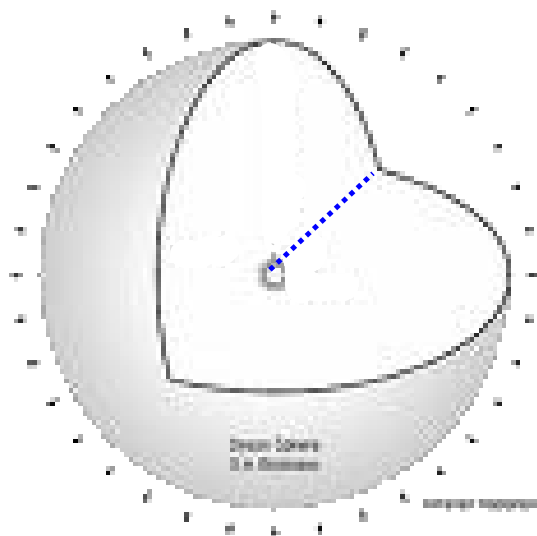
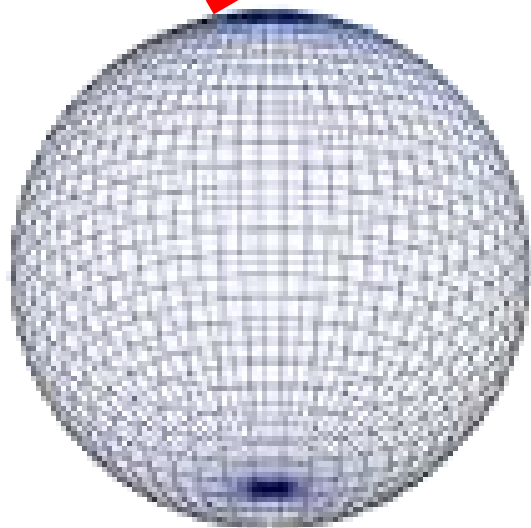
$$c) V = \underline{\text{Area of Base}} \times \text{height}$$

$$V = (\pi r^2) \times h$$

$$V = \pi (3)^2 \times 10$$

$$V = 282.6 \text{ cm}^3$$

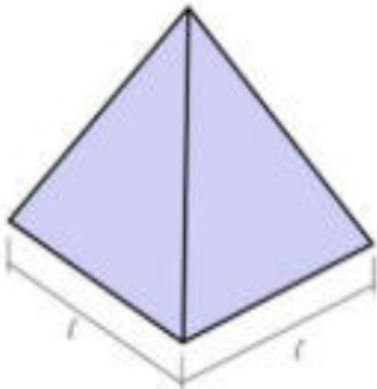
Sphere



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

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

Anything that comes to a point !!



Pyramid

Pyramid
or
Cone



Cone

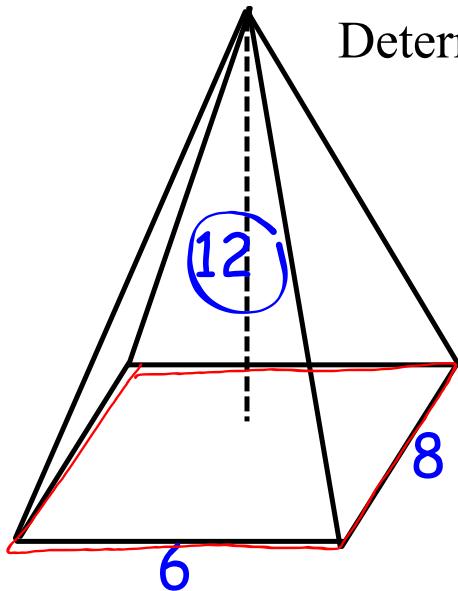
$$V = \frac{1}{3} (\text{Area of base}) \times \text{Height}$$

Pyramid: $V = \frac{1}{3} (l \times w) \times h$

$$V = \frac{1}{3} lwh$$

Cone: $V = \frac{1}{3} (\pi r^2) h$

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



Determine the Volume

Step 1) Find the area of the base

$$A = l \times w$$

$$A = 6 \times 8$$

$$A = 48 \text{ units}^2$$

Step 2) This is a pyramid.

(Use the equation to find volume.)

$$V = \frac{1}{3} (\text{Area of Base}) \times \underline{\underline{h}}$$

$$V = \frac{1}{3} (48)(12)$$

$$V = \frac{576}{3}$$

$$V = 192 \text{ units}^3$$

A "DrumStick" icecream bar has the following dimensions shown.
What is the volume?



$$V = \frac{1}{3} (\text{Area of Base}) \times \text{height}$$

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

$$V = \frac{1}{3} \pi (4)^2 (13)$$

$$V = 217.71 \text{ units}^3$$