**Finding a Partial VOLUME of a Cylinder**
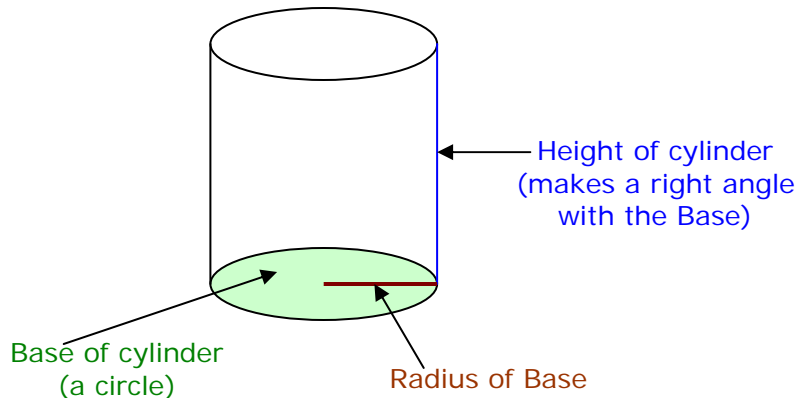    Flossvillle Park, Ahoy, Matey Subtask 3:  Cover the bottom of the pond with sand.

Vocabulary:



Height of cylinder
(makes a right angle
    with the Base)

Base of cylinder
(a circle)

Radius of Base

The **volume of the cylinder** is a measurement describing how much (in cubic units) the cylinder will hold.  It is a measure of the space inside the cylinder.

The **formula** for finding the Volume of a right circular cylinder is:

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

where **r** is the radius of the circle at one base of the cylinder,
and **h** is the height of the cylinder (the distance between the bases.)

**Example:**  The radius of the base of a can of lemonade mix is 6 cm.  The height of the can is 15 cm.  The lemonade mix fills the can to a height of 7 cm.  What is the volume of the lemonade mix in the can?



6 cm

15 cm
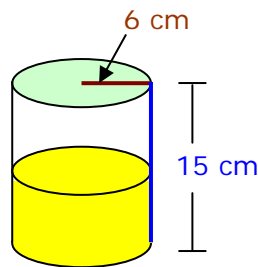
Since the lemonade mix fills the can to a height of 7 cm, use 7 as the height in the formula.

Then, using 3.14 as an approximation for $\pi$ to calculate the volume:

$$V = \pi r^2 h$$
$$V = \pi (6 \text{ cm})^2 (7 \text{ cm})$$
$$V = \pi\ (36 \text{ cm}^2)(7 \text{ cm})$$
$$V \approx 3.14(36 \text{ cm}^2)(7 \text{ cm})$$
$$V \approx 791.28 \text{ cm}^3$$

The remaining volume of the lemonade mix in the can is approximately 791.28 cm$^3$.