

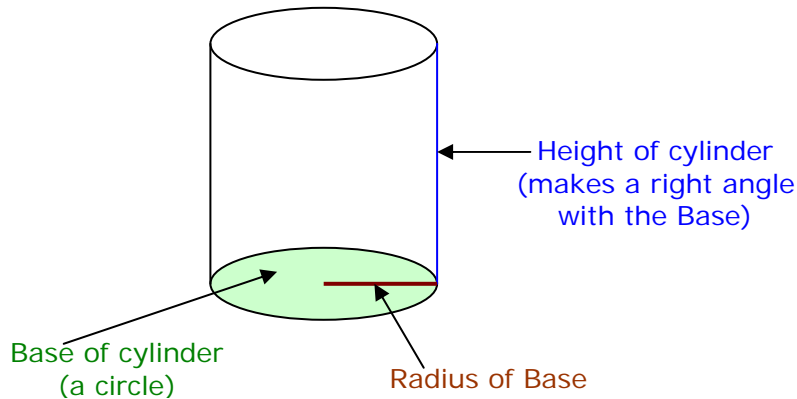
Finding the VOLUME of a Right Circular Cylinder

Flossville Park, Ahoy, Matey Subtask 2: Dig out the pond.

Windjammer Center, Aquatic Adventure Subtask 1: Dig out the pond.

Windjammer Center, Aquatic Adventure Subtask 2: Fill the pond with water.

Vocabulary:



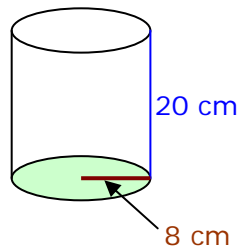
The volume of the cylinder is a measurement describing how much (in cubic units) the cylinder will hold. It is a measure of the space inside the cylinder.

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 right circular cylinder is **8 cm**. The **height** of the cylinder is **20 cm**. Find the volume of the cylinder.



Using 3.14 as an approximation for π to calculate the volume:

$$\begin{aligned} V &= \pi r^2 h \\ V &= \pi (8 \text{ cm})^2 (20 \text{ cm}) \\ V &= \pi (64 \text{ cm}^2) (20) \\ V &\approx 3.14 (64 \text{ cm}^2) (20 \text{ cm}) \\ V &\approx 4019.2 \text{ cm}^3 \end{aligned}$$

The volume of the cylinder is approximately 4019.2 cm^3 .