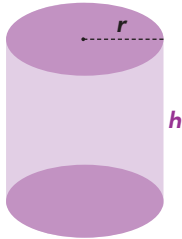


# VOLUME OF CYLINDERS, CONES, AND SPHERES

## Volume of a Cylinder

Formula:

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



Example:

First, find the radius.

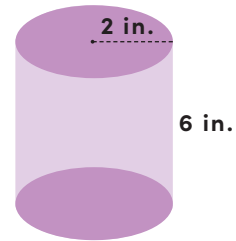
$$r = 2 \text{ in.}$$

Next, find the height.

$$h = 6 \text{ in.}$$

Then, use the formula to find the volume.

You can use 3.14 as an approximation for  $\pi$ .



$$V = \pi \cdot 2^2 \cdot 6$$

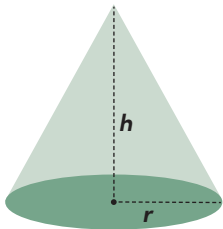
$$V \approx 3.14 \cdot 4 \cdot 6$$

$$V \approx 75.36 \text{ in.}^3$$

## Volume of a Cone

Formula:

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



Example:

First, find the radius.

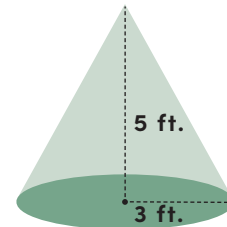
$$r = 3 \text{ ft.}$$

Next, find the height.

$$h = 5 \text{ ft.}$$

Then, use the formula to find the volume.

You can use 3.14 as an approximation for  $\pi$ .



$$V = \frac{1}{3} \pi \cdot 3^2 \cdot 5$$

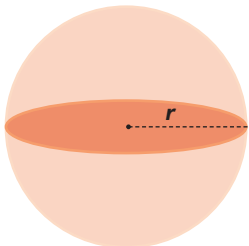
$$V \approx \frac{1}{3} \cdot 3.14 \cdot 9 \cdot 5$$

$$V \approx 47.1 \text{ ft.}^3$$

## Volume of a Sphere

Formula:

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



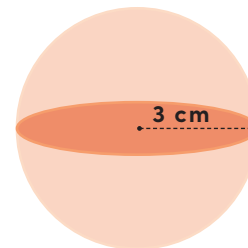
Example:

First, find the radius.

$$r = 3 \text{ cm}$$

Then, use the formula to find the volume.

You can use 3.14 as an approximation for  $\pi$ .



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

$$V \approx \frac{4}{3} \cdot 3.14 \cdot 27$$

$$V \approx 113.04 \text{ cm}^3$$