

Name: _____

Lesson Guide

This lesson guide accompanies the following video lesson:

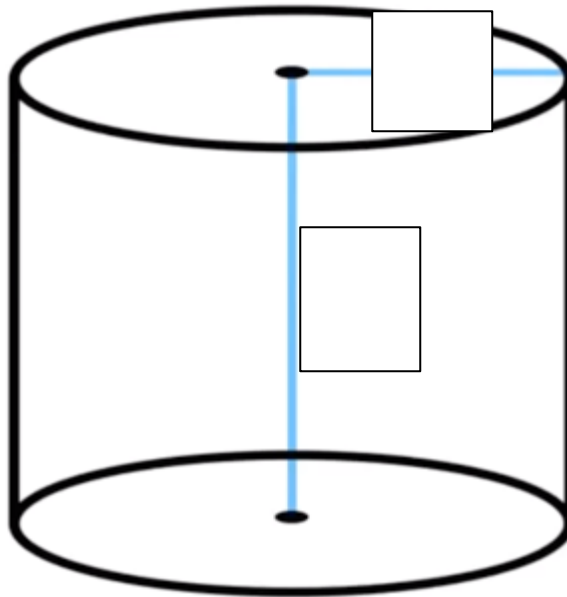


Volume and Surface Area of Cylinders

Key Questions

- What does a cylinder look like?
- How can you find the volume and surface area of a cylinder?

Diagram:



Volume represents the amount of _____ inside of a closed figure.

Example: _____

Surface Area represents the amount of space it would take to cover up the _____ of a figure.

Example: _____

Formula Reference

VOLUME

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

cubic units

SURFACE AREA

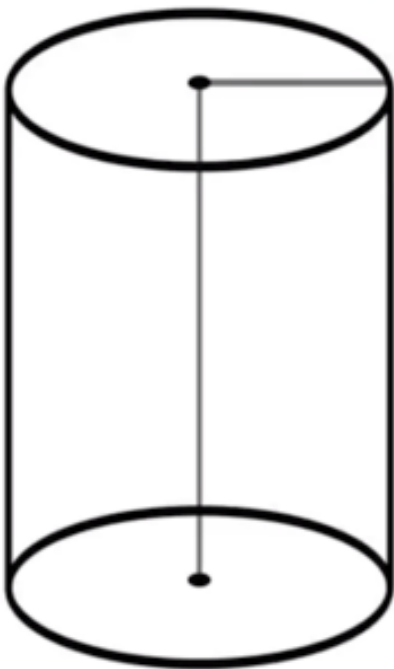
$$A = 2\pi r(h + r)$$

square units

Example 01

What is the maximum volume of coffee beans that could fit inside of a cylindrical tin with a height of 8 in. and a radius of 4 in. ?

CIRCLE ONE: Which formula will you need to use? VOLUME | SURFACE AREA



My Answer: _____

Example 02

What is the surface area of a tube-shaped pool noodle that is 62 inches long with a diameter of 4 inches?

CIRCLE ONE: Which formula will you need to use? VOLUME | SURFACE AREA



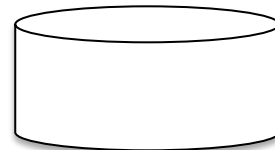
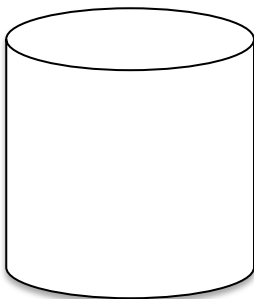
My Answer: _____

Extra Practice

Directions: Find the volume and surface area of each of the following cylinders:

1.) radius=16cm, height=34cm

2.) diameter=4m, height=2.5m



ANSWER KEY

Example 01: Volume = 402 cubic inches

Example 02: Surface Area = 802 square inches

Extra Practice:

- 1.) **$V \approx 27344.4$ cubic cm, $A \approx 5026.5$ square cm**
- 2.) **$V \approx 31.42$ cubic meters, $A \approx 56.5$ square meters**