

Name: Key
Date: _____

Mr. Johnson
Math 8

Lesson 4.8 – Volume of a Right Cylinder

Notes:

The volume of a cylinder is calculated in a similar way as the objects in this unit. Firstly, we need to calculate the area of the base. Secondly, we take the base and multiply it by the height.

We can write an algebraic formula for the volume as follows:

Let h = height & r = radius

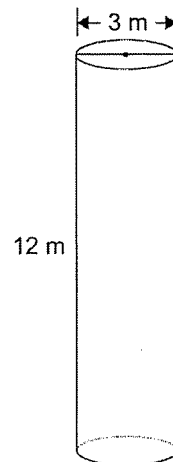
Volume of a cylinder is:

$$\begin{aligned} V &= \text{base area} \times \text{height} \\ &= \pi r^2 \times h \\ &= \pi r^2 h \end{aligned}$$

Examples:

1. Calculate the volume of the cylinder to the nearest m.

$$\begin{aligned} V &= \pi r^2 h \\ &= \pi (1.5)^2 (12) \\ &= 27\pi \\ &\approx 84.82 \end{aligned}$$



2. Ever been sitting at home watching a great hockey game and wondered what the volume of a hockey puck was? Neither have I, but it was worth a try! How much rubber is used to make the following hockey puck?

(diameter = 10 cm, height = 2.5 cm)

$$\begin{aligned} V &= \pi r^2 h \\ &= \pi (5)^2 (2.5) \\ &= 62.5\pi \\ &\approx 196.35 \end{aligned}$$



Assignment:

Pg. 217-219
#'s 1, 4-7, 10-12, 16

