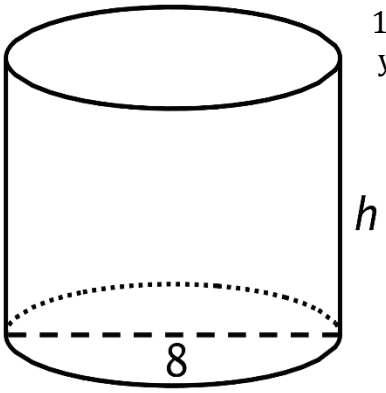
Name _____ Period _____ Date _____

Unit 5, Lesson 14: Finding Cylinder Dimensions

14.1: A Cylinder of Unknown Height



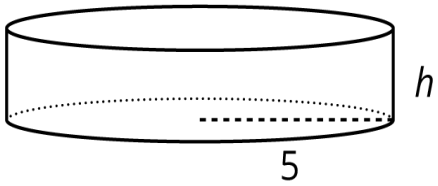
1. What is a **possible volume** for this cylinder if the diameter is 8 cm? Explain your reasoning.

14.2: What's the Dimension?

The volume V of a cylinder with radius r is given by the formula $V = \pi r^2 h$.

1. The volume of this cylinder with radius 5 units is 50π cubic units.

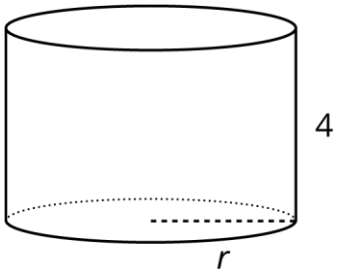
   This statement is true: $\mathbf{50\pi = 5^2 \pi h}$



What does the height of this cylinder have to be? Show your work.

2. The volume of this cylinder with height 4 units is 36π cubic units.

   This statement is true: $\mathbf{36\pi = r^2 \pi 4}$



What does the radius of this cylinder have to be? Show your work.

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1. Complete the table with all of the missing information about three different cylinders.

diameter of base (units)	area of base (square units)	height (units)	volume (cubic units)
4		10	
6			63π
	25π	6	

2. A cylinder has volume 45π and radius 3. What is its height?

3. Three cylinders have a volume of 2826 cm^3. Cylinder A has a height of 900 cm. Cylinder B has a height of 225 cm. Cylinder C has a height of 100 cm. Find the radius of each cylinder. Use 3.14 as an approximation for π.

4. A gas company's delivery truck has a cylindrical tank that is 14 feet in diameter and 40 feet long.

   a) Sketch the tank, and mark the radius and the height.

   b) How much gas can fit in the tank?