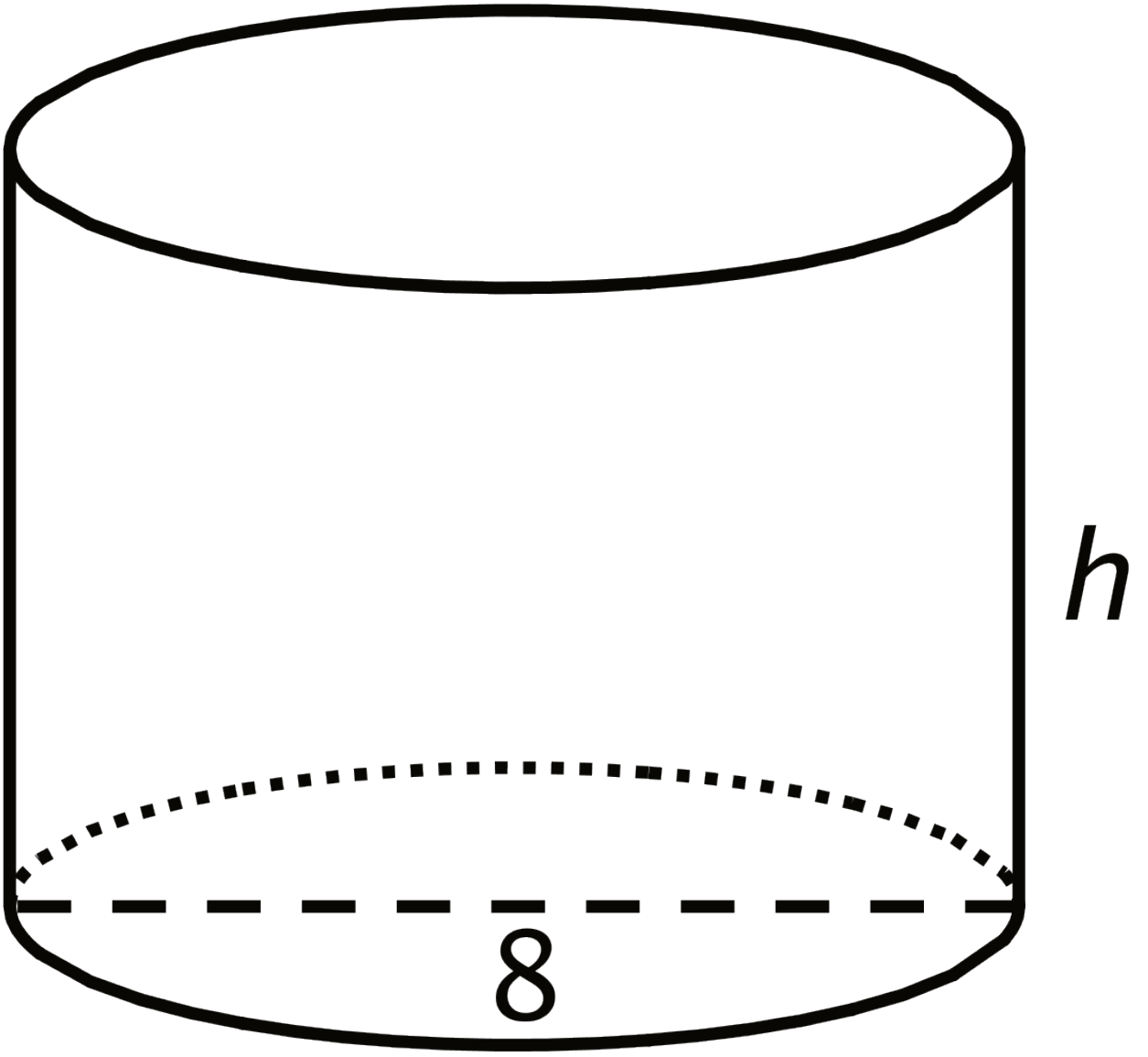
Unit 5 Lesson 14: Finding Cylinder Dimensions

1 A Cylinder of Unknown Height (Warm up)

Student Task Statement

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

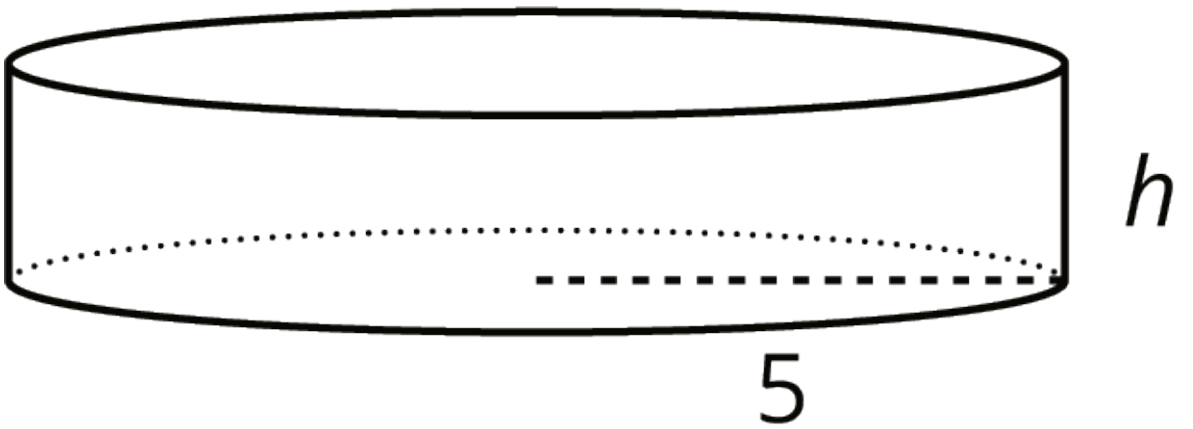


2 What's the Dimension?

Student Task Statement

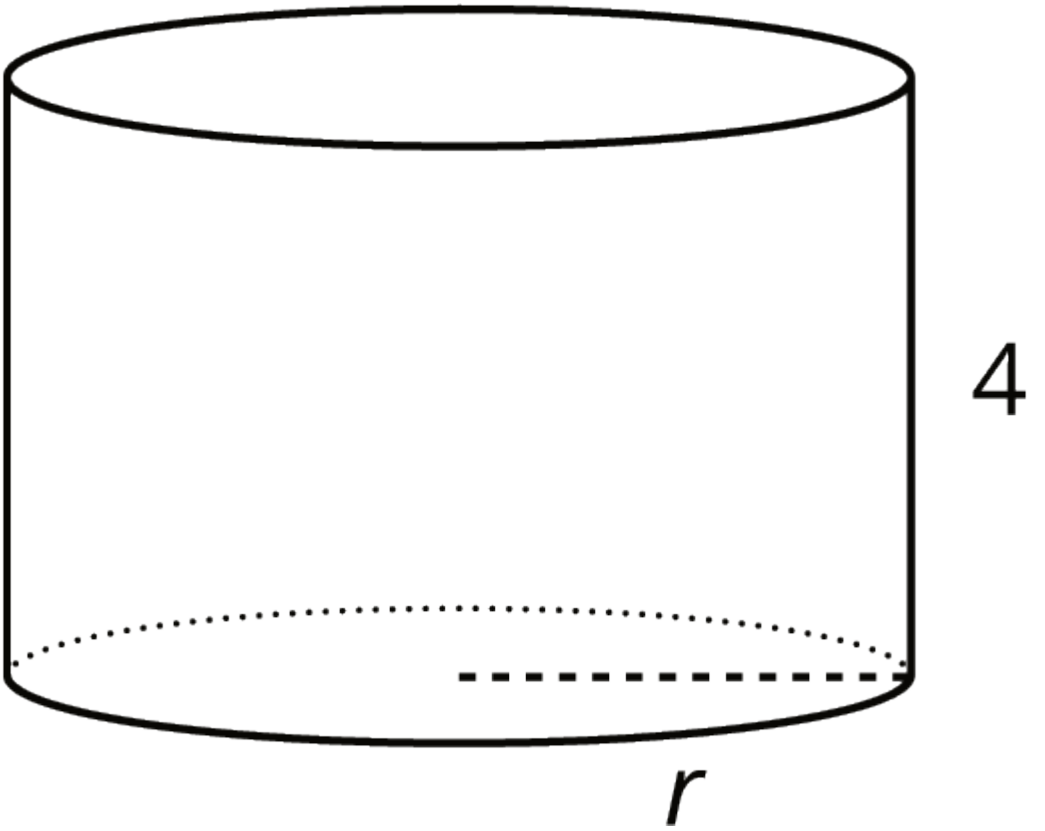
The volume V of a cylinder with radius r is given by the formula $V = \pi r^2 h$.

1. The volume of this cylinder with radius 5 units is 50π cubic units. This statement is true: $50\pi = 5^2 \pi h$



   What does the height of this cylinder have to be? Explain how you know.

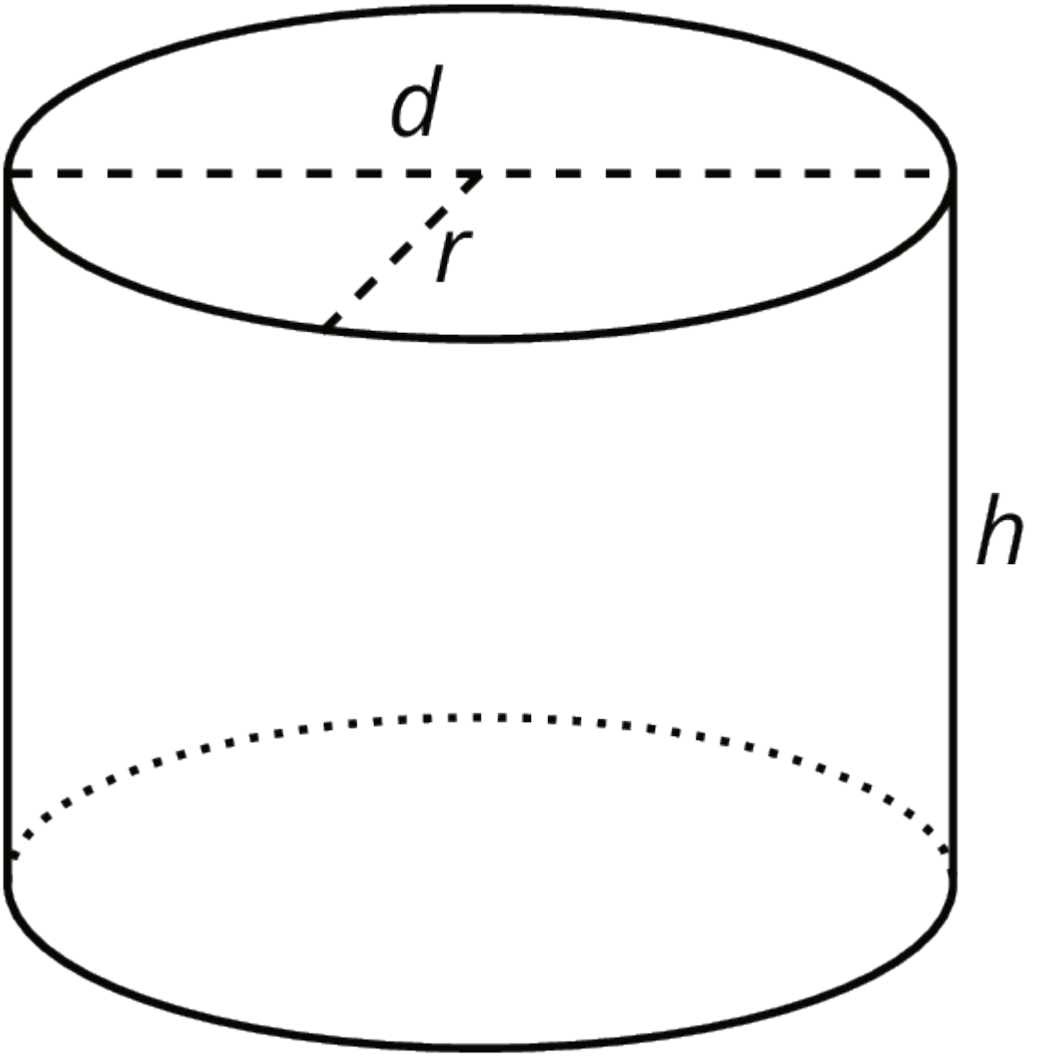
2. The volume of this cylinder with height 4 units is 36π cubic units. This statement is true: $36\pi = r^2 \pi 4$



What does the radius of this cylinder have to be? Explain how you know.

3 Cylinders with Unknown Dimensions

Student Task Statement



Each row of the table has information about a particular cylinder. Complete the table with the missing dimensions.

diameter (units)	radius (units)	area of the base (square units)	height (units)	volume (cubic units)
	3		5	
12				108π
			11	99π
8				16π
			100	16π
	10			20π
20				314
			b	$\pi \cdot b \cdot a^2$