VOLUME WORD PROBLEMS

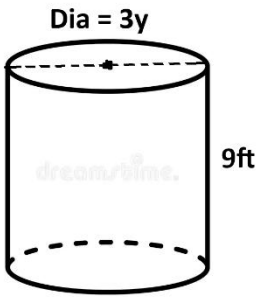
Jimmy wants to fill a large cylinder with Ketchup. The cylinder has a diameter of 3y and a height of 9ft. He uses bottles that hold 0.25 cubic feet of Ketchup that cost $2.79 each. How much will it cost to fill the cylinder?

Question to ask yourself – "Is he COVERING it, or FILLING it?"

Since he wants to FILL it (not COVER it), it is a VOLUME question.

STEP 1 – DRAW A PICTURE – ***It helps you VISUALIZE IT***

VOLUME of a cylinder = $\pi r^2 h$



VOLUME of a cylinder needs **RADIUS**. We have **DIAMETER**.

RADIUS = DIAMETER ÷ 2

3y ÷ 2 = 1.5y

The answer for **KETCHUP** is in **cubic feet**. We need **all** our cylinder measurements to be in feet. Change RADIUS to ft.

Radius 1.5y **X** $\frac{\textbf{3ft}}{\textbf{1y}}$

4.5ft

VOLUME of the cylinder:

V	=	$\pi r^2 h$	
V	=	$\pi (4.5)^2 (9)$	
V	=	572.6 cuft	
		÷ 0.25	cuft per can
	=	2290.4	Cans
		2291	Cans (you can't buy 0.4 of a can)
		X $2.79	Cost per can
	=	$6391.89	Total Cost