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### U13 HW #3

*Applying Radicals - Volume of Cylinders, Cones, and Spheres Finding the Missing Part*

**Directions**: Find the missing measurement for each shape described below. Draw and label what you know. Show the equation you are using to solve for the missing measure. Be sure to show all steps and label your answer in units.

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| 1. The volume of a cylinder is 63.6 cubic inches, and its height is 9 inches. Find the diameter of the base of the cylinder.   Extension: Find the circumference of the base of the cylinder. | 1. The volume of a cylinder is 8,685.9 cubic ft, it has a diameter of 19.2 ft, find the height of the cylinder. |

**Directions:** For each problem given below draw and label a picture that describes each shape. **Then** solve. Be sure to answer each question in complete sentences.

1. Mr. Riley bought 6 cans of paint to paint his garage. Each can has volume of 667.59 in3 and a radius of 5 in. If he stacks the 3 cans one on top of the other will they fit under a shelf that is 30 inches from the floor? If they do, could he fit a 4th can in the stack? If they do not, by how much should he raise the shelf to make them fit?

**Directions**: Find the missing measurement for each shape described below. Draw and label what you know. Show the equation you are using to solve for the missing measure. Be sure to show all steps and label your answer in units.

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| 1. The volume of a cone is 37.7 cubic inches, and its height is 4 inches. Find the diameter of the base of the cone. | 1. The volume of a cone is 628.3 cubic ft, it has a diameter of 20 ft, find the height of the cone. |

**Directions:** For each problem given below draw and label a picture that describes each shape. **Then** solve. Be sure to answer each question in complete sentences.

1. A silo is shaped like a cone and contains wheat. The silo contains 1570.8 ft3 and has a radius of 10 ft.
2. What is the height of the cone shaped silo?
3. If the silo can release wheat from its bottom at the rate of 25 cubic feet per minute, how long would it take for the silo to empty fully? Round your answer to the nearest minute.

**Directions**: Find the missing measurement for each shape described below. Draw and label what you know. Show the equation you are using to solve for the missing measure. Be sure to show all steps and label your answer in units.

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| 1. The volume of a sphere is 113.1 cm3; find the diameter of the sphere. | 1. The volume of a sphere is 4,188.8 cubic feet; find the radius of the sphere. |

**Directions:** For each problem given below draw and label a picture that describes each shape. **Then** solve. Be sure to answer each question in complete sentences.

1. Soccer balls come in several different sizes. One of the soccer balls has a volume of 57905.84 cm3. What is the circumference of this soccer ball?