Unit 9 Day 2 Homework 9-33, 9-34, 9-40, 9-41, 9-49, 9-50

**9-33. Cindy’s cylindrical paint bucket has a diameter of 12 inches and a height of 14.5 inches. If 1 gallon ≅ 231 in3, how many gallons does her paint bucket hold?**

****

**9-34. Multiple Choice: Which ratio below is the best approximation of the ratio between the circumference of a circle and its diameter?**

|  |  |  |  |
| --- | --- | --- | --- |
| **a. 2** | **b. 3** | **c. 4** | **d. 6** |

**9-40.** Draw a cylinder on your paper. Assume the radius of the cylinder is 6 inches and the height is 9 inches.

* 1. What is the surface area of the cylinder? What is the volume?
	2. If the cylinder is enlarged with a linear scale factor of 3, what is the volume of the enlarged cylinder? How do you know?



**9-41.** While Katarina was practicing her figure skating, she wondered how far she had traveled. She was skating a “figure 8,” which means she starts between two circles and then travels on the boundary of each circle, completing the shape of an “8.” If both circles have a radius of 5 feet, how far does she travel when skating one “figure 8”?

**9-49.** Elliot has a modern fish tank that is in the shape of an oblique prism, shown at right. If the slant of the prism makes a 60° angle, find the volume of water the tank can hold. Assume all measurements are in inches.



**9-50.** Decide if the following statements are true or false. If they are true, explain how you know. If they are false, provide a counterexample.

* 1. If a quadrilateral has two sides that are parallel and two sides that are congruent, then the quadrilateral must be a parallelogram.
	2. If the interior angles of a polygon add up to 360°, then the polygon must be a quadrilateral.

* 1. If a quadrilateral has 3 right angles, then the quadrilateral must be a rectangle.
	2. If the diagonals of a quadrilateral bisect each other, then the quadrilateral must be a rhombus.