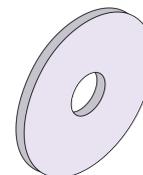


Lesson 17 Practice Problems

1. The washer in the image has an inner diameter of $\frac{1}{4}$ inch. The outer diameter measures $\frac{3}{4}$ inch, and the washer is $\frac{1}{4}$ inch thick. The density of the metal the washers are made of is 0.285 pounds per cubic inch.



How much do 5 washers weigh, in pounds? Round your answer to the nearest hundredth.

2. Assume that a cell is a sphere with radius 10^{-3} or 0.001 centimeter, and that a cell's density is 1.1 grams per cubic centimeter.
- Koalas weigh 6 kilograms on average. How many cells are in the average koala?
 - Hippopotamuses weigh 1,400 kilograms on average. How many cells are in the average hippo?

3. The density of water is 1 gram per cm^3 . An object floats in water if its density is less than water's density, and it sinks if its density is greater than water's. Will a toy in the shape of a rectangular prism that is 1 centimeter by 2 centimeter by 2 centimeter with mass 3 grams sink or float? Explain your reasoning.
4. A cube and a sphere both have volume 512 cubic units. Which solid has a greater surface area? Explain your reasoning.

(From Unit 5, Lesson 16.)

5. Give the dimensions of 2 solids with equal surface area and different volume.

(From Unit 5, Lesson 16.)

6. A right cone has a base with diameter 10 units. The volume of the cone is 100π cubic units. What is the length of a segment drawn from the apex to the edge of the circular base?
- A. 5 units
 - B. 12 units
 - C. 13 units
 - D. 15 units

(From Unit 5, Lesson 15.)

7. A pyramid has a height of 4 inches and a volume of 40 cubic inches. Select **all** figures that could be the base for this pyramid.

- A. a 5 inch by 2 inch rectangle
- B. a 3 inch by 10 inch rectangle
- C. a triangle with height 10 inches and base 3 inches
- D. a right triangle with one side 5 inches and the hypotenuse 13 inches
- E. a heart with area 30 square inches

(From Unit 5, Lesson 14.)

8. Select **all** solids for which the formula $V = Bh$ applies.

- A. a triangular prism
- B. a triangular pyramid
- C. a square pyramid
- D. a rectangular prism
- E. a cone
- F. a cylinder

(From Unit 5, Lesson 9.)

9. Two distinct lines, ℓ and m , are each perpendicular to the same line n . A fourth distinct line, k , is also perpendicular to line n . Does line k intersect line ℓ or line m ? Explain how you know.

(From Unit 1, Lesson 6.)