

12**Family Letter****Dear Parent or Guardian:**

People who work in industries such as art, construction, and science study two-and-three-dimensional figures. Knowing how to calculate area, surface area, and volume helps us make decisions about how much material we need to cover and fill things.

In **Chapter 12, Measurement: Two-and-Three-Dimensional Figures**, your child will learn how to find the area of parallelograms, triangles, trapezoids, circles, and composite figures. Your child will also learn to identify and draw three-dimensional figures, to find the volume of rectangular prisms and cylinders, and to solve problems by solving a simpler problem. In the study of this chapter, your child will complete a variety of daily classroom assignments and activities and possibly produce a chapter project.

By signing this letter and returning it with your child, you agree to encourage your child by getting involved. Enclosed is an activity you can do with your child that practices how the math we will be learning in Chapter 12 might be tested. You may also wish to log on to **www.msmath2.com** for self-check quizzes and other study help. If you have any questions or comments, feel free to contact me at school.

Sincerely,

Signature of Parent or Guardian _____ Date _____

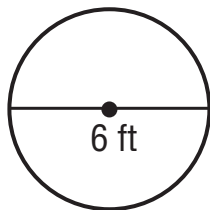
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Family Activity

State Test Practice

Fold the page along the dashed line. Work each problem on another piece of paper. Then unfold the page to check your work.

1. A circular table has a diameter of 6 feet.



Which of the following is also true about this table?

- A The radius of this table is 2.5 feet.
- B The circumference of this circle is about 18.84 feet.
- C The area of this circle is about 18.84 square feet.
- D The are of this circle is about 109 square feet.

Fold here.

Solution

1. *Hint: The radius of a circle is half of the diameter. The formula for circumference is $C = \pi d$ or $2\pi r$. The formula for the area of a circle is $A = \pi r^2$, and $\pi = 3.14$.*

The radius of the table is half of the diameter, or 3, so Choice A is false.

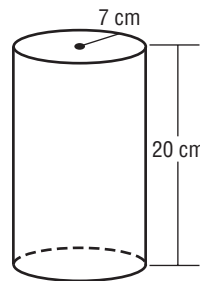
The circumference of the circle is calculated below.

$$\begin{aligned} C &= \pi d \\ &\approx 3.14 \cdot 6 \text{ ft} \\ &\approx 18.84 \text{ ft} \end{aligned}$$

Option B is true.

The answer is **B**.

2. Mrs. Andrew's homeroom is collecting change to donate to the local homeless shelter. The container they are using is a cylinder.



What is the volume of the container?

- A 140 square centimeters
- B 879.2 square centimeters
- C 980 cubic centimeters
- D 3,077.2 cubic centimeters

Solution

2. The formula for the volume of a cylinder is $V = \pi r^2 h$, where r represents the radius and h represents the height.

The formula for the volume of the container is $V = \pi r^2 h$.

$$\begin{aligned} V &\approx 3.14 \cdot (7\text{cm})^2 \cdot 20 \text{ cm} \\ &\approx 3,077.2 \text{ cm}^3 \end{aligned}$$

Notice that the units are cubed because we multiplied cm by cm^2 . Units to express volume are always cubic.

The answer is **D**.