

7

Family Letter

Dear Parent or Guardian:

Learning about geometry is exciting because geometric shapes are everywhere! From the food we eat to the things we build, we are influenced by geometric shapes. Knowing how to find the areas and volumes of these shapes helps us make decisions such as the amount of material we need to construct an object or the amount of liquid we need to fill a container. These types of decisions are made in almost every industry.

In **Chapter 7, Geometry: Measuring Area and Volume**, your child will learn how to calculate circumference and area of circles, the area of composite figures, to find surface areas and volumes of prisms, cylinders, pyramids, and cones. Your child will also learn about similar figures 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 7 might be tested. You may also wish to log on to www.msmath3.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 _____

7 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. Alexandria wants to know how wide her room is. She knows the area is 156 square feet and that the length is 12 feet.



What is the width of the room shown above?

- A 12 feet
B 13 feet
C 14 feet
D 15 feet

Fold here

Solution

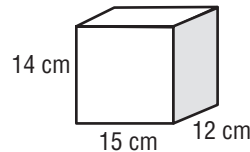
1. *Hint: The area of a rectangle is $A = \ell w$.*

The area of a rectangle is the length multiplied by the width. In this case, we know the area and the length of the room, so we will use the area formula to calculate the width.

$$\begin{aligned} A &= \ell w \\ 156 \text{ ft}^2 &= 12 \text{ ft} \times w \\ w &= 156 \div 12 \\ w &= 13 \text{ ft} \end{aligned}$$

The answer is **B**.

2. Chaz is sending his brother (who is in the army) a package to let him know that he is thinking of him. The dimensions of the package are shown below.



What is the surface area of the box Chaz is sending to his brother?

- A 2,520 cubic centimeters
B 2,520 square centimeters
C 1,116 cubic centimeters
D 1,116 square centimeters

Solution

2. *Hint: The surface area of a prism is the sum of the surface areas of all of its faces.*

A rectangular prism has 6 faces. The opposite sides are identical. The surface area is the sum of the surface areas of the 3 pairs of faces.

Front and back:
 $2 \times 14 \text{ cm} \times 15 \text{ cm} = 420 \text{ cm}^2$

Ends:
 $2 \times 14 \text{ cm} \times 12 \text{ cm} = 336 \text{ cm}^2$

Top and bottom:
 $2 \times 12 \text{ cm} \times 15 \text{ cm} = 360 \text{ cm}^2$

Now add the areas

$$(420 + 336 + 360) = 1,116 \text{ cm}^2$$

The answer is **D**.