

# Multiply to Find Area

Name: \_\_\_\_\_

## Prerequisite: Count Square Units

Study the example showing how to count square units to find area. Then solve problems 1–6.

### Example

What is the area of this rectangle?

There are 4 rows with 5 squares in each row.

You can skip count the rows by 5 to find how many squares there are: 5, 10, 15, 20. Or you can count each square.

Since there are 20 squares, the area is 20 square units.

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20

1 Each square inside this rectangle is 1 square centimeter. What is the area? Tell how you know.

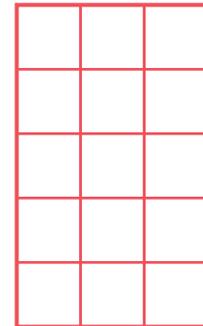
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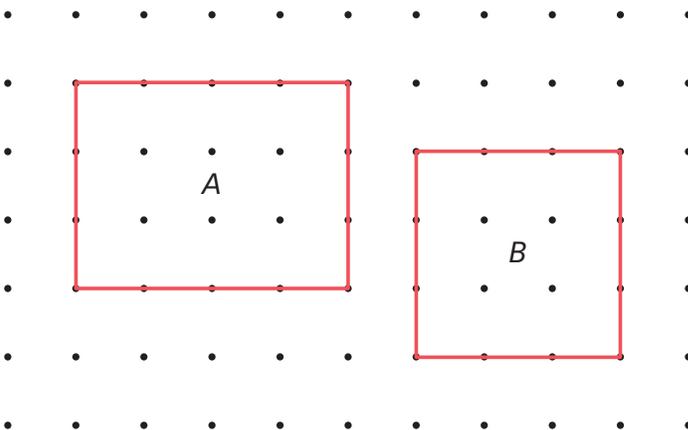
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2 Find the area of each shape.



Rectangle A: Area = \_\_\_\_\_ square units

Rectangle B: Area = \_\_\_\_\_ square units

### Vocabulary

**area** the amount of space a shape covers.

**square unit** a square with side lengths of 1 unit that is used to measure the area of a figure.



**Solve.**

**3** Eva and Lin are gluing same-size squares onto pieces of paper. They each have the same size paper. Who will use fewer squares? Explain.

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Eva's squares 

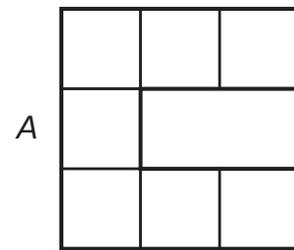
Lin's squares 

**4** Shapes *A* and *B* are made of the same-size squares. Which shape has the greater area? Tell how you know.

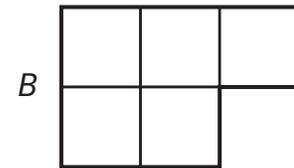
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**5** Draw a rectangle with an area of 10 square units. Draw another rectangle with an area of 11 square units. Label each shape with its area.



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**6** Can you make a rectangle that has two rows of squares with an area of 11 square units? Why or why not?

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**Multiply to Find Area**

**Study the example showing how to multiply to find area. Then solve problems 1–9.**

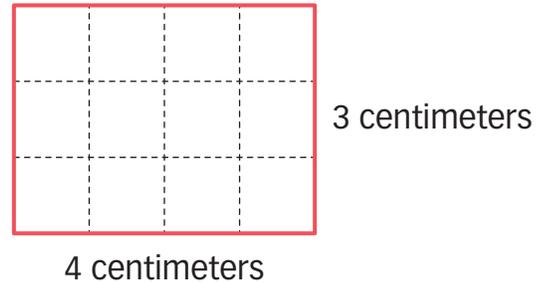
**Example**

A rectangle has a length of 4 centimeters and a width of 3 centimeters. What is the area?

Fill the rectangle with 1-centimeter squares. There are 4 squares in a row and 3 rows.

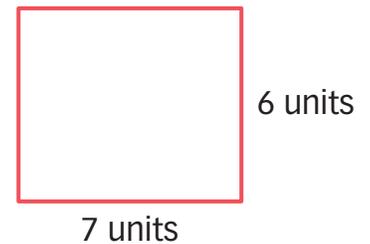
You can multiply to find the total number of squares:  $4 \times 3 = 12$ .

The area is 12 square centimeters.



**1** What is the area of this rectangle? Write a number sentence.

length	×	width	=	area
___ units	×	___ units	=	___ square units



**2** A rectangle has a length of 8 inches and a width of 7 inches. What is the area of the rectangle?

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**3** A square has sides that are 4 centimeters long. What is the area? Write a number sentence.

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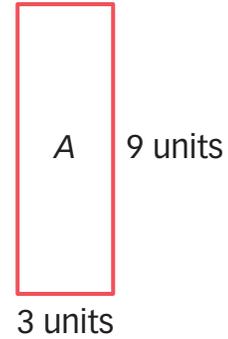


**Solve.**

- 4 Write a number sentence to find the area of Rectangle A. Then write the area.

number sentence: \_\_\_\_\_

area: \_\_\_\_\_



- 5 A rectangle has a length of 6 centimeters and a width of 5 centimeters. What is the area of the rectangle? Show your work.

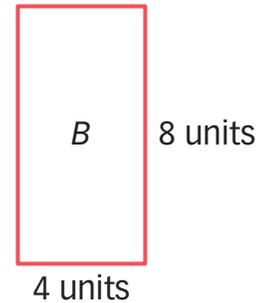
\_\_\_\_\_  
\_\_\_\_\_

- 6 What is the area of a square with sides that are 8 centimeters long? Show your work.

\_\_\_\_\_  
\_\_\_\_\_

- 7 What is the area of Rectangle B? Show your work.

\_\_\_\_\_  
\_\_\_\_\_

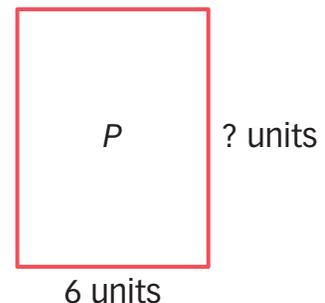


- 8 Lena draws a square with an area that is greater than the area of Rectangle B. What are two possible side lengths of Lena's square? Explain.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- 9 Pablo draws Rectangle P. He says that the area is greater than 50 square units. What could the missing side length be? Explain.

\_\_\_\_\_  
\_\_\_\_\_



**Solve Word Problems About Area**

**Study the example showing how to solve a word problem about area. Then solve problems 1–6.**

**Example**

Ana’s garden is 7 feet long and 7 feet wide. Noah’s garden is 8 feet long and 6 feet wide. Which garden has a smaller area?

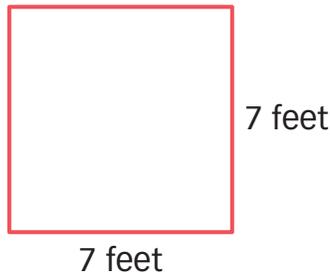
You can draw a model.  
Then multiply length by width  
to find the area of each garden.

Ana:  $7 \times 7 = 49$  square feet

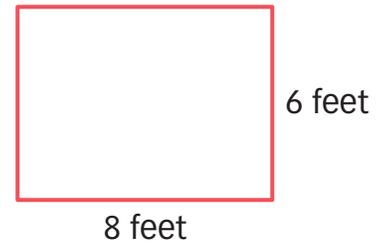
Noah:  $8 \times 6 = 48$  square feet

Noah’s garden has a smaller area.

**Ana’s Garden**



**Noah’s Garden**



- 1** Roberto’s desk is 4 feet long and 2 feet wide. What is the area of Roberto’s desktop? Fill in the blanks.

length	×	width	=	area
___ feet	×	___ feet	=	___ square feet

- 2** Show how to find the area of this rug.

\_\_\_\_\_

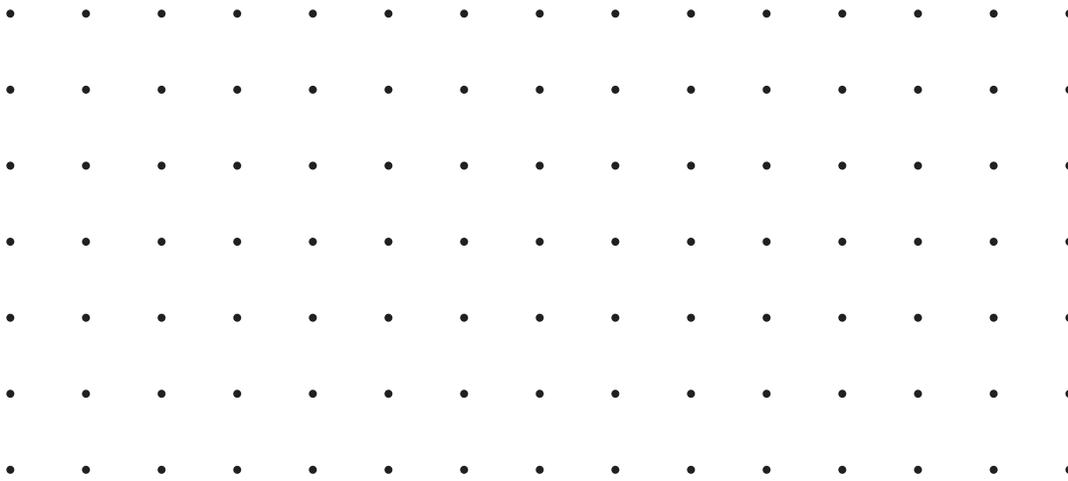
- 3** Vera buys a rug like the one in problem 2. Vera’s rug is square. It has sides that are 4 feet long. Does Vera’s rug cover more or less area than the rug in problem 2? Explain.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



**Solve.**

**4** Aiden prints a rectangular photo that is 4 units wide and 6 units long. Bella prints a square photo. It is 5 units on each side. Draw the photos and label the side lengths. Write the areas.



**5** Draw and label a rectangle that has a smaller area than the area of a square that is 3 units on each side. Write the area of the rectangle.

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**6** Ron buys a rug for his room. The rug is 8 feet long and 5 feet wide. His room is 10 feet long and 10 feet wide. How much of the floor in Ron's room will not be covered by the rug?

**Show your work.**

Solution: \_\_\_\_\_

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## Multiply to Find Area

Solve the problems.

- 1 What is the area of the rectangle? Circle the letter of the correct answer.



- A 10 square feet  
 B 21 square feet  
 C 20 square feet  
 D 49 square feet

Diego chose **C** as the correct answer. How did he get that answer?

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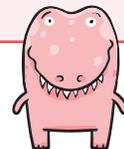
What are the length and width of the rectangle?



- 2 Which shapes have an area of 36 square units? Circle the letter for all that apply.

- A a square with sides that are 18 units long  
 B a rectangle with a length of 9 units and a width of 4 units  
 C a square with sides that are 6 units long  
 D a rectangle with a length of 8 units and a width of 4 units

You can think about multiplication facts to help you solve the problem.



**Solve.**

- 3** Zach is helping his dad tile a shower wall. He has enough tiles to cover an area of 42 square feet. The shower wall is 8 feet high and 4 feet wide. Do they have enough tiles to cover the area?

**Show your work.**

*Solution:* \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

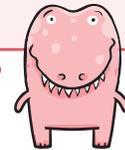
You can first find out the area they need to cover with tiles.



- 4** Mr. Diaz asks students to draw a shape with an area of 4 square units. Chad says that you can only draw a square. Do you agree? Explain.

*Solution:* \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Can you arrange 4 same-sized squares to make a shape that's not a square?



- 5** A bulletin board is 8 feet long. It covers an area of 40 square feet. What is the width of the bulletin board?

**Show your work.**

*Solution:* \_\_\_\_\_

I think you can write a number sentence to help you solve the problem.

