Area of rectangles

You can find the area of a rectangle from its two side lengths. You do not need to count every square.

WORDS TO KNOW

Rectangle: a shape with four straight sides and four square corners.

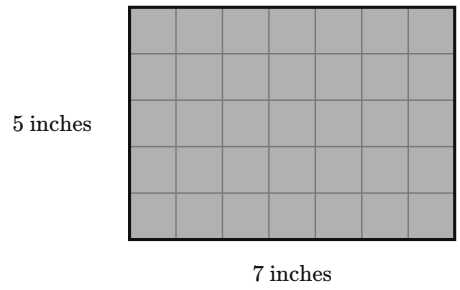
Square: a rectangle with all four sides the same length.

Length and width: the two side lengths that meet at a corner.

KEY IDEAS

1. The side lengths tell the rows and the squares in a row

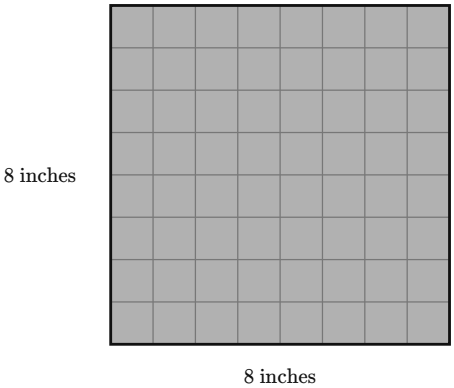
Each inch square is 1 inch wide. So 7 squares fit along the 7-inch side. Each row is 1 inch tall. So the 5-inch side holds 5 rows.



> Area = length × width
>
> The answer is in square units, like square inches.

2. A square works the same way

This square has sides of 8 inches. It has 8 rows of 8 squares.



> Area of a square = side × side
>
> 8 × 8 = 64 square inches.

WATCH OUT

- **Write square units.** An area is in square feet, not feet.
- **Use the same unit for both sides.** Do not multiply feet by inches.
- **This works only for rectangles.** An L shape has rows of different lengths.

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WORKED EXAMPLES

Example 1. A rug is 10 feet long and 3 feet wide. What is its area?

1. Each row along the 10-foot side holds 10 square feet.
2. The 3-foot side holds 3 rows.
3. Skip-count by tens, one number for each row: 10, 20, 30.
4. So 3 × 10 = 30.

Answer: 30 square feet.

Example 2. A play mat covers 50 square feet. One side is 10 feet. How long is the other side?

1. Picture rows of 10 square feet along the 10-foot side.
2. How many rows of 10 make 50?
3. Count by tens: 10, 20, 30, 40, 50. That is 5 rows.
4. Each row is 1 foot deep, so the side is 5 feet.

Answer: 5 feet. It is a length, not square feet. **Check:** 5 × 10 = 50.

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