

## Area of Rectangles

Once you know the rule “area = length  $\times$  width,” rectangles get easy. Don’t forget to use *square units* for the answer.

Formula
Area of a rectangle = length $\times$ width
Area of a square = side $\times$ side

### Key Concepts

1. A rectangle’s area equals length times width:  $A = l \times w$ .
2. A square is a rectangle where every side is the same. So  $A = \text{side} \times \text{side}$ .
3. Area is always measured in *square* units: square inches, square feet, square meters, etc.
4. If you know the area and one side, you can find the other side by dividing:  $\text{side} = A \div \text{known side}$ .

### Worked Examples

① Find the area of a rectangle with length 7 in and width 4 in.

 Apply the formula:  $A = l \times w = 7 \times 4 = 28$ . Don’t forget the unit: 28 square inches (sq in).

 **Answer:** 28 sq in

② A square has a side of 5 cm. What is its area?

 For a square,  $A = \text{side} \times \text{side} = 5 \times 5 = 25$ . Unit: 25 square centimeters.

 **Answer:** 25 sq cm

③ A rectangle has area 36 sq ft and width 4 ft. What is its length?

 Use the formula backward. We know  $A = l \times w$ , so  $l = A \div w = 36 \div 4 = 9$ . Length is 9 ft.

 **Answer:** 9 ft

### Practice Problems

Find the missing area or side.

1.  $l = 8, w = 3 \Rightarrow A = ?$  \_\_\_\_\_

2.  $l = 5, w = 5 \Rightarrow A = ?$  \_\_\_\_\_

3.  $l = 9, w = 6 \Rightarrow A = ?$  \_\_\_\_\_

4.  $l = 7, w = 2 \Rightarrow A = ?$  \_\_\_\_\_

5.  $l = 4, w = 8 \Rightarrow A = ?$  \_\_\_\_\_

6.  $l = 10, w = 3 \Rightarrow A = ?$  \_\_\_\_\_

7.  $l = 6, w = 6 \Rightarrow A = ?$  \_\_\_\_\_

8.  $l = 9, w = 4 \Rightarrow A = ?$  \_\_\_\_\_

9.  $A = 30, w = 5 \Rightarrow l = ?$  \_\_\_\_\_

10.  $A = 48, l = 8 \Rightarrow w = ?$  \_\_\_\_\_

11.  $l = 7, w = 7 \Rightarrow A = ?$  \_\_\_\_\_

12.  $A = 54, w = 6 \Rightarrow l = ?$  \_\_\_\_\_

**Study Tips**

- 👉 Always include the units. “28” could be inches, feet, or square inches — be specific.
- 👉 For a square, the side is squared (multiplied by itself). The unit becomes “square *whatever*.”
- 👉 To find a missing side from the area, *divide* (use the inverse of multiplication).

**Word Problems**

1. A rug is 8 ft long and 5 ft wide. What is the area of the rug?

Answer: \_\_\_\_\_

2. Marcus tapes square photos on a wall, 6 across and 4 down. Each photo is 1 in by 1 in. What is the total area covered by the photos?

Answer: \_\_\_\_\_

**Answer Key — with Friendly Explanations****Practice Problems**

1.  $8 \times 3 = 24$ .

 **Answer:** 24

2.  $5 \times 5 = 25$ .

 **Answer:** 25

3.  $9 \times 6 = 54$ .

 **Answer:** 54

4.  $7 \times 2 = 14$ .

 **Answer:** 14

5.  $4 \times 8 = 32$ .

 **Answer:** 32

6.  $10 \times 3 = 30$ .

 **Answer:** 30

7.  $6 \times 6 = 36$ .

 **Answer:** 36

8.  $9 \times 4 = 36$ .

 **Answer:** 36

9.  $30 \div 5 = 6$ .

 **Answer:** 6

10.  $48 \div 8 = 6$ .

 **Answer:** 6

11.  $7 \times 7 = 49$ .

 **Answer:** 49

12.  $54 \div 6 = 9$ .

 **Answer:** 9**Word Problems**

1.  $8 \times 5 = 40$  sq ft.

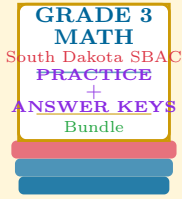
 **Answer:** 40 *sq ft*

2.  $6 \times 4 = 24$  photos  $\times$  1 sq in each = 24 sq in.

 **Answer:** 24 *sq in*

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