

# Area of Rectangles and Squares

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

Date: \_\_\_\_\_

Score: \_\_\_\_\_ / 24

## Q Quick Review

The **area** of a shape is the amount of flat space it covers, measured in **square units**. For a **rectangle**, area equals **length times width**:  $A = l \times w$ . A **square** is just a rectangle whose sides are all equal, so its area is **side times side**:  $A = s \times s = s^2$ . Always include square units in your answer, like  $\text{cm}^2$  or  $\text{ft}^2$ . If side lengths are decimals or fractions, multiply them the same careful way — the formula never changes.

◇ **Example:** Find the area of a rectangle with length 8 cm and width 5 cm.

⇒ For a rectangle, area is length times width. Here the length is 8 cm and the width is 5 cm, so multiply:  $8 \times 5 = 40$ . Because we multiplied centimeters by centimeters, the units become square centimeters. So the area is 40 square centimeters, written  $40 \text{ cm}^2$ .

**Answer:**  $40 \text{ cm}^2$

## PRACTICE

Find the area of each rectangle or square. Include square units.

- |                                                          |       |                                                          |       |
|----------------------------------------------------------|-------|----------------------------------------------------------|-------|
| 1. Rectangle: $l = 8 \text{ cm}$ , $w = 5 \text{ cm}$    | _____ | 11. Square: $s = 2.5 \text{ m}$                          | _____ |
| 2. Rectangle: $l = 12 \text{ m}$ , $w = 4 \text{ m}$     | _____ | 12. Rectangle: $l = 14 \text{ in}$ , $w = 5 \text{ in}$  | _____ |
| 3. Square: $s = 7 \text{ in}$                            | _____ | 13. Square: $s = 9 \text{ ft}$                           | _____ |
| 4. Rectangle: $l = 9 \text{ ft}$ , $w = 6 \text{ ft}$    | _____ | 14. Rectangle: $l = 7.5 \text{ cm}$ , $w = 6 \text{ cm}$ | _____ |
| 5. Rectangle: $l = 15 \text{ cm}$ , $w = 3 \text{ cm}$   | _____ | 15. Rectangle: $l = 18 \text{ m}$ , $w = 3 \text{ m}$    | _____ |
| 6. Square: $s = 11 \text{ m}$                            | _____ | 16. Square: $s = 12 \text{ in}$                          | _____ |
| 7. Rectangle: $l = 6.5 \text{ cm}$ , $w = 4 \text{ cm}$  | _____ | 17. Rectangle: $l = 4.2 \text{ m}$ , $w = 5 \text{ m}$   | _____ |
| 8. Rectangle: $l = 10 \text{ in}$ , $w = 2.5 \text{ in}$ | _____ | 18. Rectangle: $l = 16 \text{ ft}$ , $w = 4 \text{ ft}$  | _____ |
| 9. Rectangle: $l = 13 \text{ ft}$ , $w = 8 \text{ ft}$   | _____ | 19. Square: $s = 8.5 \text{ cm}$                         | _____ |
| 10. Square: $s = 20 \text{ cm}$                          | _____ | 20. Rectangle: $l = 25 \text{ m}$ , $w = 10 \text{ m}$   | _____ |

## ◆ Word Problems

21. A rectangular rug is 9 feet long and 6 feet wide. What is the area of the rug? \_\_\_\_\_
22. A square garden has sides of 12 meters. How many square meters of soil are needed to cover it? \_\_\_\_\_
23. A bedroom floor is 13 feet long and 8 feet wide. What is its area? \_\_\_\_\_
24. A poster is 2.5 feet wide and 4 feet tall. What is the area of the poster? \_\_\_\_\_



## Answer Keys

- |                                                                 |                                                                   |
|-----------------------------------------------------------------|-------------------------------------------------------------------|
| 1. <input type="text" value="40 cm&lt;sup&gt;2&lt;/sup&gt;"/>   | 13. <input type="text" value="81 ft&lt;sup&gt;2&lt;/sup&gt;"/>    |
| 2. <input type="text" value="48 m&lt;sup&gt;2&lt;/sup&gt;"/>    | 14. <input type="text" value="45 cm&lt;sup&gt;2&lt;/sup&gt;"/>    |
| 3. <input type="text" value="49 in&lt;sup&gt;2&lt;/sup&gt;"/>   | 15. <input type="text" value="54 m&lt;sup&gt;2&lt;/sup&gt;"/>     |
| 4. <input type="text" value="54 ft&lt;sup&gt;2&lt;/sup&gt;"/>   | 16. <input type="text" value="144 in&lt;sup&gt;2&lt;/sup&gt;"/>   |
| 5. <input type="text" value="45 cm&lt;sup&gt;2&lt;/sup&gt;"/>   | 17. <input type="text" value="21 m&lt;sup&gt;2&lt;/sup&gt;"/>     |
| 6. <input type="text" value="121 m&lt;sup&gt;2&lt;/sup&gt;"/>   | 18. <input type="text" value="64 ft&lt;sup&gt;2&lt;/sup&gt;"/>    |
| 7. <input type="text" value="26 cm&lt;sup&gt;2&lt;/sup&gt;"/>   | 19. <input type="text" value="72.25 cm&lt;sup&gt;2&lt;/sup&gt;"/> |
| 8. <input type="text" value="25 in&lt;sup&gt;2&lt;/sup&gt;"/>   | 20. <input type="text" value="250 m&lt;sup&gt;2&lt;/sup&gt;"/>    |
| 9. <input type="text" value="104 ft&lt;sup&gt;2&lt;/sup&gt;"/>  | 21. <input type="text" value="54 ft&lt;sup&gt;2&lt;/sup&gt;"/>    |
| 10. <input type="text" value="400 cm&lt;sup&gt;2&lt;/sup&gt;"/> | 22. <input type="text" value="144 m&lt;sup&gt;2&lt;/sup&gt;"/>    |
| 11. <input type="text" value="6.25 m&lt;sup&gt;2&lt;/sup&gt;"/> | 23. <input type="text" value="104 ft&lt;sup&gt;2&lt;/sup&gt;"/>   |
| 12. <input type="text" value="70 in&lt;sup&gt;2&lt;/sup&gt;"/>  | 24. <input type="text" value="10 ft&lt;sup&gt;2&lt;/sup&gt;"/>    |

### Step-by-Step Explanations

- |                                                         |                                                          |
|---------------------------------------------------------|----------------------------------------------------------|
| 1. Area = $l \times w = 8 \times 5 = 40 \text{ cm}^2$ . | 13. Area = $s^2 = 9 \times 9 = 81 \text{ ft}^2$ .        |
| 2. Area = $12 \times 4 = 48 \text{ m}^2$ .              | 14. Area = $7.5 \times 6 = 45 \text{ cm}^2$ .            |
| 3. Area = $s^2 = 7 \times 7 = 49 \text{ in}^2$ .        | 15. Area = $18 \times 3 = 54 \text{ m}^2$ .              |
| 4. Area = $9 \times 6 = 54 \text{ ft}^2$ .              | 16. Area = $s^2 = 12 \times 12 = 144 \text{ in}^2$ .     |
| 5. Area = $15 \times 3 = 45 \text{ cm}^2$ .             | 17. Area = $4.2 \times 5 = 21 \text{ m}^2$ .             |
| 6. Area = $s^2 = 11 \times 11 = 121 \text{ m}^2$ .      | 18. Area = $16 \times 4 = 64 \text{ ft}^2$ .             |
| 7. Area = $6.5 \times 4 = 26 \text{ cm}^2$ .            | 19. Area = $s^2 = 8.5 \times 8.5 = 72.25 \text{ cm}^2$ . |
| 8. Area = $10 \times 2.5 = 25 \text{ in}^2$ .           | 20. Area = $25 \times 10 = 250 \text{ m}^2$ .            |
| 9. Area = $13 \times 8 = 104 \text{ ft}^2$ .            | 21. Area = $l \times w = 9 \times 6 = 54$ square feet.   |
| 10. Area = $s^2 = 20 \times 20 = 400 \text{ cm}^2$ .    | 22. Area = $s^2 = 12 \times 12 = 144$ square meters.     |
| 11. Area = $s^2 = 2.5 \times 2.5 = 6.25 \text{ m}^2$ .  | 23. Area = $l \times w = 13 \times 8 = 104$ square feet. |
| 12. Area = $14 \times 5 = 70 \text{ in}^2$ .            | 24. Area = $l \times w = 4 \times 2.5 = 10$ square feet. |



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