

## Area and Perimeter of Composite Figures

Composite figures are made of two or more rectangles stuck together. Break them apart, find each piece's area, then add. For perimeter, walk all the way around and add up the side lengths.

### Key Concepts

1. A **composite figure** (or compound figure) is a shape made by joining simple shapes — usually rectangles.
2. To find the **area** of a composite shape, split it into rectangles, find each area separately, and add them up.
3. To find the **perimeter**, add up all the outside side lengths. Be careful: pretend you are walking the outside edge — do not count any inner walls.
4. Always label your pieces and write each step before adding. Composite problems have several numbers; staying organized is half the work.

### Worked Examples

① An L-shape is made of a  $4 \times 2$  rectangle and a  $4 \times 3$  rectangle. What is the total area?

 Area of piece 1:  $4 \times 2 = 8$ . Area of piece 2:  $4 \times 3 = 12$ . Add:  $8 + 12 = 20$  square units.

 **Answer:** 20 sq units

② A T-shape has outer sides: 2, 6, 2, 3, 6, 3. What is its perimeter?

 Just add every outer side:  $2 + 6 + 2 + 3 + 6 + 3 = 22$  units.

 **Answer:** 22 units

③ Two squares of side 3 are placed side by side. What is the area and perimeter?

 Area: each square is  $3 \times 3 = 9$ , and there are 2, so total = 18 square units. Perimeter: the new shape is a  $3 \times 6$  rectangle.  $P = 2 \times 3 + 2 \times 6 = 18$  units.

 **Answer:** Area = 18 sq units; Perimeter = 18 units

### Practice Problems

Find the area or perimeter of each composite figure.

1. Two rects:  $3 \times 4$  and  $3 \times 2$ .  $A = ?$   
\_\_\_\_\_

2. Two rects:  $5 \times 2$  and  $5 \times 3$ .  $A = ?$   
\_\_\_\_\_

3. Outer sides: 4, 2, 2, 4, 6, 6.  $P = ?$   
\_\_\_\_\_

4. Two squares, side 4, side by side.  $A = ?$   
\_\_\_\_\_

5. Outer sides: 3, 3, 5, 2, 2, 5.  $P = ?$   
\_\_\_\_\_

6. Two rects:  $6 \times 1$  and  $4 \times 3$ .  $A = ?$   
\_\_\_\_\_

7. Three rects:  $2 \times 3$ ,  $2 \times 3$ ,  $2 \times 3$ .  $A = ?$   
\_\_\_\_\_

8. Outer sides: 5, 1, 3, 2, 2, 3.  $P = ?$   
\_\_\_\_\_

9. Two rects:  $7 \times 2$  and  $3 \times 2$ .  $A = ?$   
\_\_\_\_\_

10. Outer sides: 8, 3, 4, 2, 4, 5.  $P = ?$  \_\_\_\_\_

\_\_\_\_\_

12. Two rects:  $4 \times 4$  and  $4 \times 2$ .  $A = ?$

11. Two squares, side 5, side by side.  $P = ?$  \_\_\_\_\_

### Study Tips

- 👉 Draw a dashed line on the picture to show how you split the shape into rectangles. Then label each rectangle.
- 👉 For perimeter, trace the outside edge with your finger. Each side gets counted exactly once.
- 👉 Two simple shapes glued together share an inner edge — that edge does *not* count toward perimeter.

### Word Problems

1. A room is shaped like an L. One part is 5 ft by 4 ft and the other part is 3 ft by 4 ft. What is the total area of the room?

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

2. Sara tiles two rectangular sections of a wall: one 6 in by 2 in and one 6 in by 3 in. What is the total area she tiles?

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

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

1.  $3 \times 4 + 3 \times 2 = 12 + 6 = 18.$

 **Answer:** 18

2.  $5 \times 2 + 5 \times 3 = 10 + 15 = 25.$

 **Answer:** 25

3.  $4 + 2 + 2 + 4 + 6 + 6 = 24.$

 **Answer:** 24

4. Two  $4 \times 4$  squares:  $16 + 16 = 32.$

 **Answer:** 32

5.  $3 + 3 + 5 + 2 + 2 + 5 = 20.$

 **Answer:** 20

6.  $6 \times 1 + 4 \times 3 = 6 + 12 = 18.$

 **Answer:** 18

7.  $2 \times 3 \times 3 = 18.$

 **Answer:** 18

8.  $5 + 1 + 3 + 2 + 2 + 3 = 16.$

 **Answer:** 16

9.  $7 \times 2 + 3 \times 2 = 14 + 6 = 20.$

 **Answer:** 20

10.  $8 + 3 + 4 + 2 + 4 + 5 = 26.$

 **Answer:** 26

11. Combined shape:  $5 \times 10$  rectangle,  $P = 30.$

 **Answer:** 30

12.  $4 \times 4 + 4 \times 2 = 16 + 8 = 24.$

 **Answer:** 24**Word Problems**

1.  $5 \times 4 + 3 \times 4 = 32$  sq ft.

 **Answer:** 32 sq ft

2.  $6 \times 2 + 6 \times 3 = 30$  sq in.

 **Answer:** 30 sq in

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