

Grade 4 · Area and Perimeter of Rectangles · Lesson

Common Core 4.MD.A.3 · mathovore.fr

Area is the amount of flat space inside a shape, and perimeter is the distance around it. For a rectangle, area equals length times width, and perimeter equals twice the length plus twice the width. An 8 foot by 5 foot rectangle has an area of 40 square feet.

Grade 4 Common Core: 4.MD.A.3

Key facts:

- Area of a rectangle: $A = l \times w$, in square units
- Perimeter of a rectangle: $P = 2 \times l + 2 \times w$, in plain units
- A square has area $s \times s$ and perimeter $4 \times s$
- To find a missing side from area, divide by the known side
- Rectangles with the same perimeter can have different areas

What are area and perimeter?

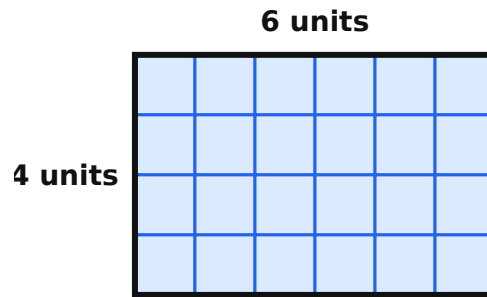
Area tells how much flat space a shape covers. Perimeter tells how far it is around the edge. Think of a garden: the grass inside is the area, and the fence around it is the perimeter.

Area and perimeter

Area is measured in square units, such as square feet. **Perimeter** is measured in plain units, such as feet. A rectangle has two long sides (length) and two short sides (width).

How do you find the area of a rectangle?

Cover the rectangle with unit squares. A rectangle that is 6 units long and 4 units wide has 4 rows of 6 squares.



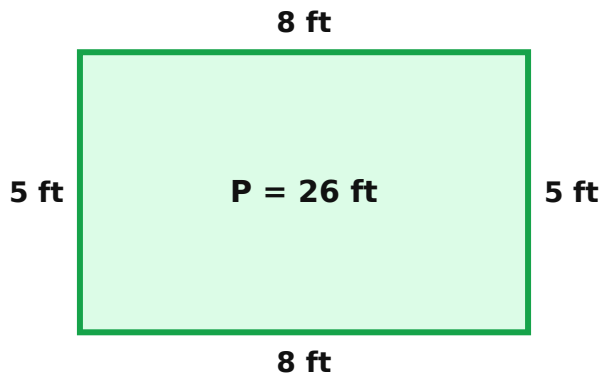
Four rows of 6 squares: $4 \times 6 = 24$ square units.

Counting every square works, but multiplying is faster:

$$A = l \times w$$

How do you find the perimeter of a rectangle?

Add the lengths of all four sides. Opposite sides are equal, so you can also add the length and width and then double the sum.



Add all four sides: $8 + 5 + 8 + 5 = 26$ feet.

$P = 2 \times l + 2 \times w$. For this rectangle, $2 \times 8 + 2 \times 5 = 16 + 10 = 26$.

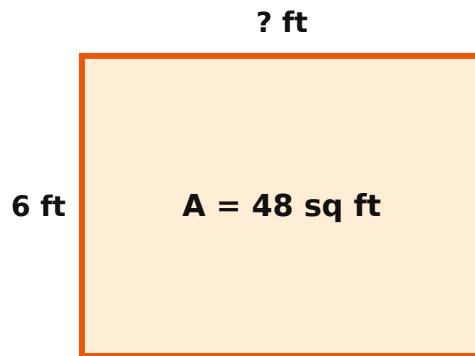
Measure	Formula	Unit
Area	$A = l \times w$	square units
Perimeter	$P = 2 \times l + 2 \times w$	units
Square area	$A = s \times s$	square units

Keep these formulas handy.

How do you find a missing side?

Use the formula backward. If the area and one side are known, divide. A rectangle has an area of 48 square feet and a width of 6 feet. Find its length.

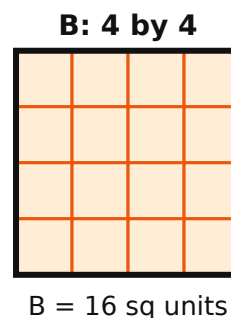
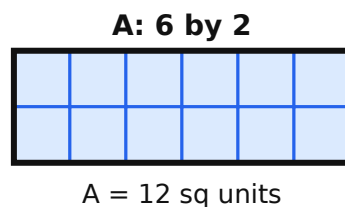
1. Write the multiplication: $l \times 6 = 48$.
2. Divide: $48 \div 6 = 8$.
3. Check: $8 \times 6 = 48$.



The length is 8 feet.

Can two rectangles have the same perimeter but different areas?

Yes. Both rectangles below have a perimeter of 16 units, but their areas are different. Do not mix up the two measures.



Same perimeter, different area.

Area and Perimeter of Rectangles: frequently asked questions

What is the formula for the area of a rectangle?

The area of a rectangle is length times width, written $A = l \times w$. A rectangle 9 feet long and 4 feet wide has an area of 36 square feet.

What is the formula for the perimeter of a rectangle?

The perimeter is $2 \times l + 2 \times w$, or add all four sides. For a 7 inch by 3 inch rectangle, the perimeter is $14 + 6 = 20$ inches.

Why is area measured in square units?

Area counts how many unit squares cover a shape, and each square is one unit long and one unit wide. That is why the answer is in square feet or square inches.

How do I find a missing side of a rectangle?

If you know the area, divide it by the known side. If you know the perimeter, divide it by 2 and then subtract the known side.

Can a square use the same formulas?

Yes. A square is a rectangle with equal sides. Its area is side times side, and its perimeter is 4 times the side length.