

Rectangle Detectives

Measure the space inside and the distance around.

GRADE 4 • 4.GSR.8

4.GSR.8 "Identify and draw geometric objects, classify polygons based on properties, and solve problems involving area and perimeter of rectangular figures."

NAME _____

DATE _____

AREA AND PERIMETER

Area measures the space inside a rectangle. Multiply the length by the width to find area. Perimeter measures the distance around a rectangle. Add all four sides, or add the length and width and multiply by 2.

WORKED EXAMPLE

A rectangle is 11 units long and 6 units wide. Find its area and perimeter.

1. Area = length x width.
2. $11 \times 6 = 66$ square units.
3. Perimeter = $2 \times (11 + 6) = 34$ units.

**Answer: Area: 66 square units;
perimeter: 34 units.**

PRACTICE 6 problems

- 1** A rectangle is 8 units long and 3 units wide. What is its area?

ANSWER _____

- 2** A rectangle is 9 centimeters long and 4 centimeters wide. What is its perimeter?

ANSWER _____

- 3** A rectangular card has an area of 35 square inches and a width of 5 inches. What is its length?

ANSWER _____

- 4** A rectangle has a perimeter of 30 centimeters and a length of 10 centimeters. What is its width?

ANSWER _____

- 5** Rectangle A is 4 units by 10 units. Rectangle B is 5 units by 7 units. Which rectangle has the larger area, and by how many square units?

ANSWER _____

- 6** A rectangle is 12 meters long and 2 meters wide. Find its area and perimeter.

ANSWER _____

APPLY IT Show your work

- 1** Kai is making a rectangular cover for a board game. The cover is 9 inches long and 7 inches wide. How many square inches of paper does Kai need?

WORK SPACE

ANSWER _____

- 2** Mia is putting ribbon around the edge of a rectangular science-fair poster. The poster is 14 inches long and 5 inches wide. How many inches of ribbon does she need?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A rectangular photo backdrop has a perimeter of 38 feet. Its length is 7 feet. What is its area? Explain how you found the missing width.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A rectangle is 8 units long and 3 units wide. What is its area?	24 square units
2	A rectangle is 9 centimeters long and 4 centimeters wide. What is its perimeter?	26 centimeters
3	A rectangular card has an area of 35 square inches and a width of 5 inches. What is its length?	7 inches
4	A rectangle has a perimeter of 30 centimeters and a length of 10 centimeters. What is its width?	5 centimeters
5	Rectangle A is 4 units by 10 units. Rectangle B is 5 units by 7 units. Which rectangle has the larger area, and by how many square units?	Rectangle A, by 5 square units
6	A rectangle is 12 meters long and 2 meters wide. Find its area and perimeter.	Area: 24 square meters; perimeter: 28 meters

PART 2 • APPLY IT

- 63 square inches** Multiply the length by the width. $9 \times 7 = 63$.
- 38 inches** Find the perimeter by adding both lengths and both widths. $14 + 14 + 5 + 5 = 38$.

CHALLENGE

84 square feet. Half of 38 is 19, so the width is 12 feet because $19 - 7 = 12$. Then $7 \times 12 = 84$.

Accept equivalent perimeter work, such as adding all four sides or using $2 \times (\text{length} + \text{width})$. Accept square-unit abbreviations when the correct unit is shown.