LESSON MAKER PRO

Shape Space Detectives

Find area and perimeter of rectangles and squares.

GRADE 4 · 4.MG.3

4.MG.3 "The student will use multiple representations to develop and use formulas to solve problems, including those in context, involving area and perimeter limited to rectangles and squares (in both U.S. Customary and metric units)..."

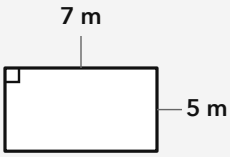
NAME _____ DATE _____

AREA AND PERIMETER

Area tells how much space covers the inside of a shape. For a rectangle, multiply length by width to find area, and add all four side lengths to find perimeter. A square has four equal sides, so multiply one side by itself for area and multiply one side by 4 for perimeter.

WORKED EXAMPLE

Use the rectangle. Find its area and perimeter.

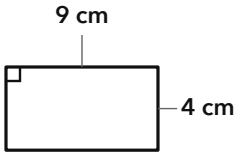


1. Area = length × width.
2. A = 7 m × 5 m = 35 m^2.
3. P = 7 m + 5 m + 7 m + 5 m = 24 m.

Answer: Area = 35 m^2; Perimeter = 24 m

PRACTICE 6 problems

1 Use the rectangle. Find its area and perimeter.



ANSWER _____

_____

2 A rectangular trading card is 6 inches long and 2 inches wide. Find its area and perimeter.

ANSWER _____

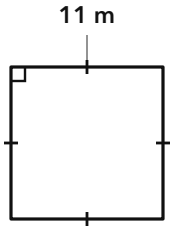
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3 A square dog park has a side length of 9 feet. Find its area and perimeter.

ANSWER _____

_____

4 Use the square. Find its area and perimeter.



ANSWER _____

_____

5 Rectangle A is 13 cm by 2 cm. Rectangle B is 11 cm by 4 cm. Do the rectangles have the same perimeter or the same area? Give each area.

ANSWER _____

_____

6 A rectangle has side lengths of 13 yards and 3 yards. Find its area and perimeter.

ANSWER _____

_____

APPLY IT Show your work

1 The student council plans a rectangular pollinator garden that is 14 m long and 6 m wide. How many meters of edging are needed around the garden? How many square meters will the garden cover?

WORK SPACE

ANSWER _____

2 Jordan is covering a square game-table top with paper. Each side is 8 inches. How many inches of ribbon are needed around the edge? How many square inches of paper cover the top?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Two rectangles each have an area of 48 square units. One rectangle is 12 units by 4 units. Find a different pair of whole-number side lengths with an area of 48 square units and a smaller perimeter. Explain how you know its perimeter is smaller.

WORK SPACE AND ANSWER

ANSWER KEY

Shape Space Detectives

GRADE 4 · 4.MG.3

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Use the rectangle. Find its area and perimeter.	**Area = 36 cm^2; Perimeter = 26 cm**
2	A rectangular trading card is 6 inches long and 2 inches wide. Find its area and perimeter.	**Area = 12 in^2; Perimeter = 16 in**
3	A square dog park has a side length of 9 feet. Find its area and perimeter.	**Area = 81 ft^2; Perimeter = 36 ft**
4	Use the square. Find its area and perimeter.	**Area = 121 m^2; Perimeter = 44 m**
5	Rectangle A is 13 cm by 2 cm. Rectangle B is 11 cm by 4 cm. Do the rectangles have the same perimeter or the same area? Give each area.	**They have the same perimeter, 30 cm. Rectangle A has an area of 26 cm^2, and Rectangle B has an area of 44 cm^2.**
6	A rectangle has side lengths of 13 yards and 3 yards. Find its area and perimeter.	**Area = 39 yd^2; Perimeter = 32 yd**

PART 2 · APPLY IT

1. **40 m of edging; 84 m^2 of garden space** Add all four sides to find the edging: 14 + 6 + 14 + 6 = 40 m. Multiply 14 × 6 to find the area, 84 m^2.
2. **32 in of ribbon; 64 in^2 of paper** Multiply 8 by 4 to find the perimeter, 32 in. Multiply 8 × 8 to find the area, 64 in^2.

CHALLENGE

8 units by 6 units. Its perimeter is 28 units, which is smaller than the 12-by-4 rectangle's perimeter of 32 units.

Accept equivalent equations, correct units, and area written in square units. For the challenge, accept 6 units by 8 units and an explanation that compares 28 units with 32 units.