LESSON MAKER PRO

Rectangle Edge Quest

Find area and perimeter in joined rectangles.

GRADE 3 · MA.3.GR.2.4

MA.3.GR.2.4 "Solve mathematical and real-world problems involving the perimeter and area of composite figures composed of non-overlapping rectangles with whole-number side lengths."

NAME _____ DATE _____

JOIN, ADD, SUBTRACT

Add the areas of the rectangles to find total area. For perimeter, add the rectangle perimeters, then subtract twice the length of each shared side because shared sides are inside the figure.

WORKED EXAMPLE

A composite figure has a 6 by 2 rectangle and a 2 by 8 rectangle. They share a 2-unit side. Find the area and perimeter.

1. Area of first rectangle: 6 x 2 = 12 square units.
2. Area of second rectangle: 2 x 8 = 16 square units.
3. Total area: 12 + 16 = 28 square units.
4. Perimeter: 16 + 20 - (2 + 2) = 32 units.

Answer: Area = 28 square units; perimeter = 32 units

PRACTICE 5 problems

1 A figure has a 3 by 4 rectangle and a 3 by 5 rectangle. They share a 3-unit side. Find the area.

ANSWER _____

2 A figure has a 5 by 9 rectangle and a 5 by 3 rectangle. They share a 5-unit side. Find the perimeter.

ANSWER _____

3 A figure has a 5 by 4 rectangle and a 5 by 7 rectangle. They share a 5-unit side. Find the area.

ANSWER _____

4 A figure has a 9 by 7 rectangle and a 7 by 4 rectangle. They share a 7-unit side. Find the area and perimeter.

ANSWER _____

5 A figure has a 4 by 9 rectangle and a 4 by 5 rectangle. They share a 4-unit side. Find the area.

ANSWER _____

APPLY IT Show your work

1 Maya makes a dog run from a 5 by 7 rectangle and a 3 by 5 rectangle. The rectangles share a full 5-unit side. How much grass area is inside the run? How many units of fence go around the outside?

WORK SPACE

ANSWER _____

2 A game display is made from a 9 by 5 rectangle and a 5 by 3 rectangle. They share a full 5-unit side. How many square units does the display cover? How many units of border are needed?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A figure starts with a 7 by 5 rectangle. A 5 by 3 rectangle is attached above it along a 5-unit part of its top edge. A 4 by 5 rectangle is attached to its right side along a 5-unit side. Find the total area and perimeter.

_____

_____

ANSWER KEY

Rectangle Edge Quest

GRADE 3 · MA.3.GR.2.4

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A figure has a 3 by 4 rectangle and a 3 by 5 rectangle. They share a 3-unit side. Find the area.	**27 square units**
2	A figure has a 5 by 9 rectangle and a 5 by 3 rectangle. They share a 5-unit side. Find the perimeter.	**34 units**
3	A figure has a 5 by 4 rectangle and a 5 by 7 rectangle. They share a 5-unit side. Find the area.	**55 square units**
4	A figure has a 9 by 7 rectangle and a 7 by 4 rectangle. They share a 7-unit side. Find the area and perimeter.	**Area = 91 square units; perimeter = 40 units**
5	A figure has a 4 by 9 rectangle and a 4 by 5 rectangle. They share a 4-unit side. Find the area.	**56 square units**

PART 2 · APPLY IT

1. **50 square units of grass; 30 units of fence** Add the two rectangle areas for 50 square units. Add both perimeters and subtract the two shared 5-unit sides for 30 units.
2. **60 square units; 34 units of border** Add 45 and 15 to get 60 square units. Add the rectangle perimeters and subtract 10 units for the shared side.

CHALLENGE

Area = 70 square units; perimeter = 38 units

Accept equivalent correct work that adds rectangle areas and removes shared sides from the perimeter. Area answers should include square units, and perimeter answers should include units.