Rectangle Matchups

Compare each figure with a 6 cm by 12 cm rectangle.

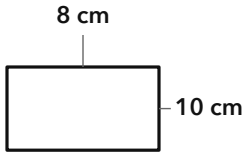
3.M.C.24 "Construct rectangles with the same perimeter and different areas or the same area and different perimeters."

NAME _____ DATE _____

SAME PERIMETER

A 6 cm by 12 cm rectangle has a perimeter of 36 cm and an area of 72 square cm. Choose this group when the perimeter matches but the area differs.

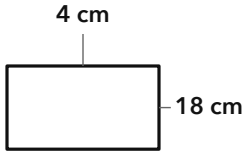
This rectangle has a perimeter of 36 cm and an area of 80 square cm.



SAME AREA

Use the same 6 cm by 12 cm rectangle. Choose this group when the area is 72 square cm but the perimeter differs.

This rectangle has an area of 72 square cm and a perimeter of 44 cm.



1 SORT

8 items

For each figure, circle PERIMETER or AREA, then pick two figures from different groups and explain with numbers how you knew.

1.

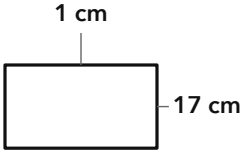


Figure 1

PERIMETER AREA

2.

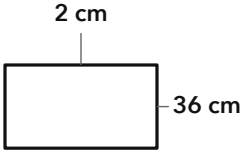


Figure 2

PERIMETER AREA

3.

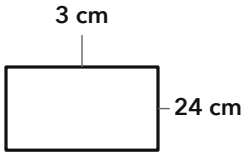


Figure 3

PERIMETER **AREA**

4.

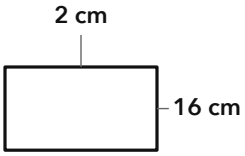


Figure 4

PERIMETER **AREA**

5.

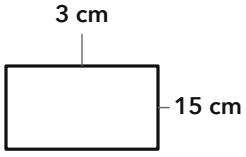


Figure 5

PERIMETER **AREA**

6.

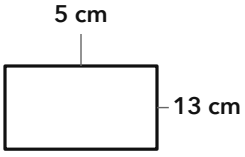


Figure 6

PERIMETER **AREA**

7.

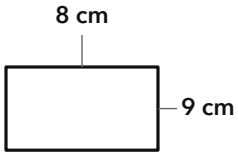


Figure 7

PERIMETER **AREA**

8.

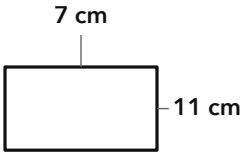


Figure 8

PERIMETER **AREA**

2 PROVE IT

Explain your thinking

Pick two figures from different groups and explain with numbers how you knew.

ITEM # _____ **HOW I KNEW** _____

ITEM # _____ **HOW I KNEW** _____

3 MAKE YOUR OWN

One of each

Write the side lengths of one new rectangle for each group. Show its perimeter and area.

PERIMETER _____

AREA _____

CHALLENGE

Sketch two rectangles with an area of 72 square cm and different perimeters. Your sketches do not need to be to scale. Label the sides and find each perimeter.

ANSWER KEY

Rectangle Matchups

GRADE 3 · 3.M.C.24

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	Figure 1 (rectangle)	**PERIMETER**	Perimeter 36 cm; area 17 square cm.
2	Figure 2 (rectangle)	**AREA**	Area 72 square cm; perimeter 76 cm.
3	Figure 3 (rectangle)	**AREA**	Area 72 square cm; perimeter 54 cm.
4	Figure 4 (rectangle)	**PERIMETER**	Perimeter 36 cm; area 32 square cm.
5	Figure 5 (rectangle)	**PERIMETER**	Perimeter 36 cm; area 45 square cm.
6	Figure 6 (rectangle)	**PERIMETER**	Perimeter 36 cm; area 65 square cm.
7	Figure 7 (rectangle)	**AREA**	Area 72 square cm; perimeter 34 cm.
8	Figure 8 (rectangle)	**PERIMETER**	Perimeter 36 cm; area 77 square cm.

PART 2 · PROVE IT

Task: Pick two figures from different groups and explain with numbers how you knew.
Accept any explanation that names the deciding feature from the rule box for the chosen item.

PART 3 · MAKE YOUR OWN (SAMPLE ANSWERS)

- **PERIMETER**: 4 cm by 14 cm; perimeter 36 cm; area 56 square cm.
- **AREA**: 1 cm by 72 cm; perimeter 146 cm; area 72 square cm.

Challenge: Sketches labeled 3 cm by 24 cm and 4 cm by 18 cm; their perimeters are 54 cm and 44 cm.

For the explanations, accept any two figures from different groups if the student uses the side lengths to show which measurement matches the 6 cm by 12 cm rectangle and which differs.