Perimeter Sort

Sort rectangles by their distance around.

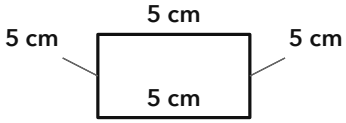
CCSS.Math.Content.3.MD.D.8 "Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length..."

NAME _____ DATE _____

PERIMETER IS 20 CM

A figure belongs here when the distance all the way around is 20 cm. Add all four labeled sides.

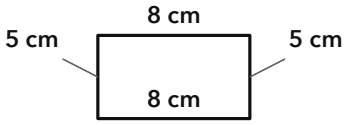
5 cm + 5 cm + 5 cm + 5 cm = 20 cm.



PERIMETER IS NOT 20 CM

A figure belongs here when the distance all the way around is not 20 cm. Add all four labeled sides to check.

8 cm + 5 cm + 8 cm + 5 cm = 26 cm.



1 SORT

8 items

For each figure, circle TWENTY or OTHER, then choose two figures and explain how you added the side lengths to prove your choices.

1.

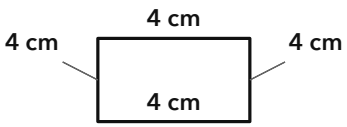


Figure 1

TWENTY OTHER

2.

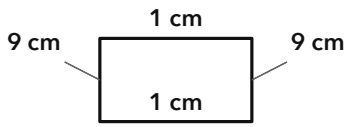


Figure 2

TWENTY OTHER

3.

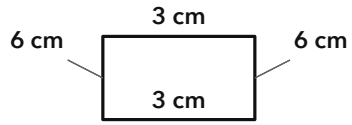


Figure 3

TWENTY OTHER

4.

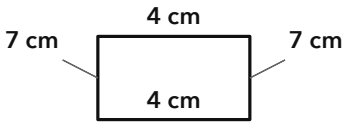


Figure 4

TWENTY OTHER

5.

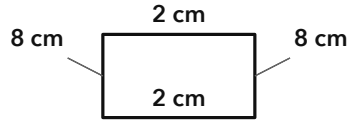


Figure 5

TWENTY OTHER

6.

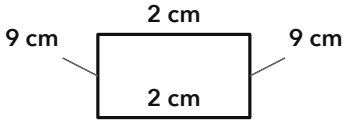


Figure 6

TWENTY OTHER

7.

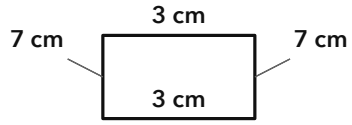


Figure 7

TWENTY OTHER

8.

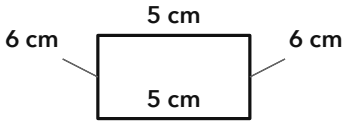


Figure 8

TWENTY OTHER

2 PROVE IT

Explain your thinking

Pick two items from Part 1. For each one, tell how you knew where it belonged.

ITEM # _____ **HOW I KNEW** _____

ITEM # _____ **HOW I KNEW** _____

3 MAKE YOUR OWN

One of each

Draw and label one new rectangle for TWENTY and one new rectangle for OTHER.

TWENTY

OTHER

CHALLENGE

Draw two different rectangles that both have a perimeter of 20 cm. Label the side lengths and find the area of each rectangle.

ANSWER KEY

Perimeter Sort

GRADE 3 · 3.MD.D.8

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	Figure 1 (rectangle)	**OTHER**	4 + 4 + 4 + 4 = 16 cm, not 20 cm.
2	Figure 2 (rectangle)	**TWENTY**	1 + 9 + 1 + 9 = 20 cm.
3	Figure 3 (rectangle)	**OTHER**	3 + 6 + 3 + 6 = 18 cm, not 20 cm.
4	Figure 4 (rectangle)	**OTHER**	4 + 7 + 4 + 7 = 22 cm, not 20 cm.
5	Figure 5 (rectangle)	**TWENTY**	2 + 8 + 2 + 8 = 20 cm.
6	Figure 6 (rectangle)	**OTHER**	2 + 9 + 2 + 9 = 22 cm, not 20 cm.
7	Figure 7 (rectangle)	**TWENTY**	3 + 7 + 3 + 7 = 20 cm.
8	Figure 8 (rectangle)	**OTHER**	5 + 6 + 5 + 6 = 22 cm, not 20 cm.

PART 2 · PROVE IT

Accept any explanation that names the deciding feature from the rule box for the chosen item.

PART 3 · MAKE YOUR OWN (SAMPLE ANSWERS)

- **TWENTY**: A rectangle with sides 4 cm, 6 cm, 4 cm, and 6 cm. Its perimeter is 20 cm.
- **OTHER**: A rectangle with sides 8 cm, 4 cm, 8 cm, and 4 cm. Its perimeter is 24 cm.

Challenge: A 4 cm by 6 cm rectangle has perimeter 20 cm and area 24 square cm. A 5 cm by 5 cm rectangle has perimeter 20 cm and area 25 square cm.

For Part 2, students should add all four sides and state whether the total is 20 cm. Part 3 answers may vary if the labeled side lengths and perimeter are correct.