Perimeter Sort

Add the side lengths, then sort the totals.

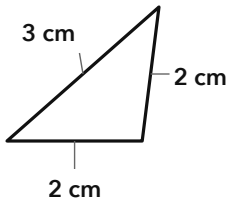
3.GM.2.1 "Find the perimeter of a polygon, given whole number lengths of the sides, using a variety of models."

NAME _____ DATE _____

UNDER 20 CM

Perimeter is the distance around a polygon. Add every side length. If the total is under 20 cm, it belongs here.

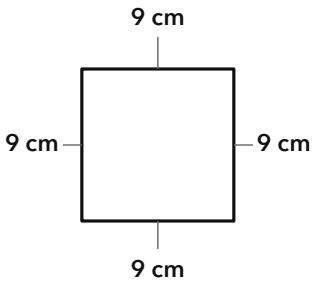
2 cm + 2 cm + 3 cm = 7 cm



20 CM OR MORE

Add every side length to find the perimeter. If the total is 20 cm or more, it belongs here.

9 cm + 9 cm + 9 cm + 9 cm = 36 cm



1 SORT

8 items

Circle a category for each figure, then in Part 2 choose one figure from each category and explain your choices using addition.

1.

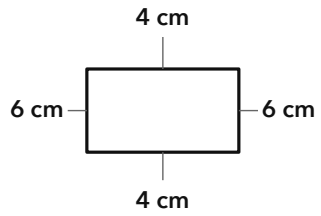


Figure 1

SHORT LONG

2.

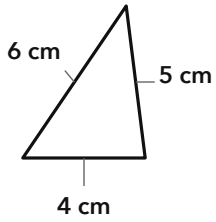


Figure 2

SHORT LONG

3.

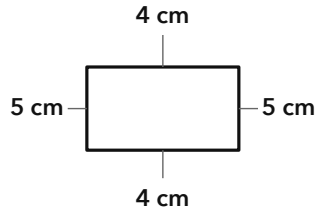


Figure 3

SHORT LONG

4.

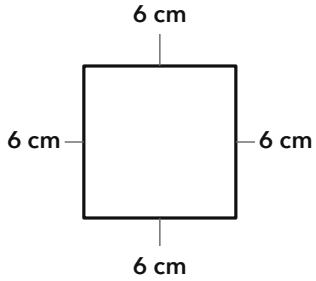


Figure 4

SHORT LONG

5.

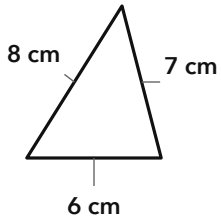


Figure 5

SHORT LONG

6.

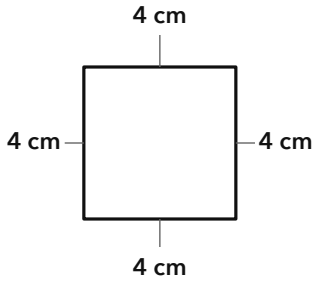


Figure 6

SHORT LONG

7.

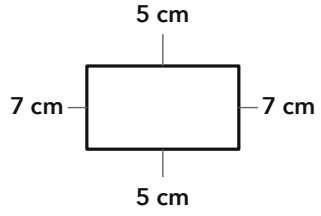


Figure 7

SHORT LONG

8.

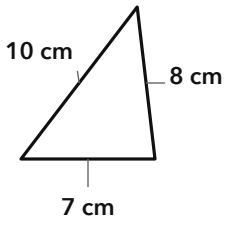


Figure 8

SHORT LONG

2 PROVE IT

Explain your thinking

Choose one figure from each category and explain your choices using addition.

ITEM # _____ **HOW I KNEW** _____

ITEM # _____ **HOW I KNEW** _____

3 MAKE YOUR OWN

One of each

In Part 3, write one new triangle perimeter equation for each category, using three whole-number side lengths.

SHORT

LONG

CHALLENGE

Write four side lengths for a rectangle with a perimeter of exactly 20 cm, then write an addition equation to prove it.

ANSWER KEY # Perimeter Sort

GRADE 3 · 3.GM.2.1

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	Figure 1 (rectangle)	**LONG**	4 + 6 + 4 + 6 = 20 cm, so it is in the 20 cm or more category.
2	Figure 2 (triangle)	**SHORT**	4 + 5 + 6 = 15 cm, which is under 20 cm.
3	Figure 3 (rectangle)	**SHORT**	4 + 5 + 4 + 5 = 18 cm, which is under 20 cm.
4	Figure 4 (square)	**LONG**	6 + 6 + 6 + 6 = 24 cm, which is more than 20 cm.
5	Figure 5 (triangle)	**LONG**	6 + 7 + 8 = 21 cm, which is more than 20 cm.
6	Figure 6 (square)	**SHORT**	4 + 4 + 4 + 4 = 16 cm, which is under 20 cm.
7	Figure 7 (rectangle)	**LONG**	5 + 7 + 5 + 7 = 24 cm, which is more than 20 cm.
8	Figure 8 (triangle)	**LONG**	7 + 8 + 10 = 25 cm, which is more than 20 cm.

PART 2 · PROVE IT

Task: Choose one figure from each category and explain your choices using addition.
Accept any explanation that names the deciding feature from the rule box for the chosen item.

PART 3 · MAKE YOUR OWN (SAMPLE ANSWERS)

- **SHORT**: 5 cm + 6 cm + 7 cm = 18 cm
- **LONG**: 8 cm + 8 cm + 8 cm = 24 cm

Challenge: 3 cm, 7 cm, 3 cm, 7 cm; 3 cm + 7 cm + 3 cm + 7 cm = 20 cm

For Part 2, accept any one figure from each category when the student adds every side correctly and compares each total with 20 cm. For Part 3, accept other equations if their side lengths can make a triangle and their totals fit the categories.