Perimeter Detectives

Check each perimeter claim.

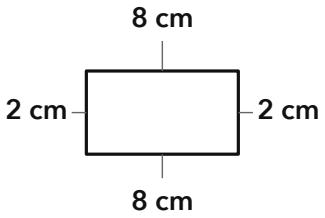
MA.2.GR.2.2 "Find the perimeter of a polygon with whole-number side lengths. Polygons are limited to triangles, rectangles, squares and pentagons."

NAME _____ DATE _____

CORRECT PERIMETER

A correct perimeter is the total length around the outside of the shape. Add every side length to check the number.

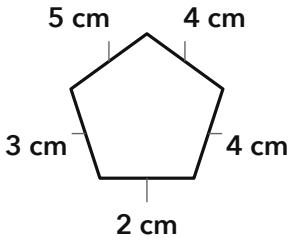
Perimeter = 20 cm



WRONG PERIMETER

A wrong perimeter does not equal the total of all the side lengths. Add every side to find the correct total.

Perimeter = 16 cm



1 SORT

8 items

For each figure, circle CORRECT or WRONG, then choose two figures and explain by adding all of their side lengths.

1.

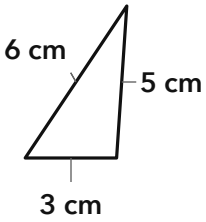


Figure 1: Perimeter = 14 cm

CORRECT WRONG

2.

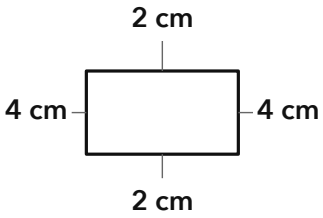


Figure 2: Perimeter = 12 cm

CORRECT WRONG

3.

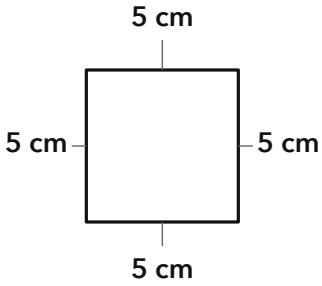


Figure 3: Perimeter = 15 cm

CORRECT WRONG

4.

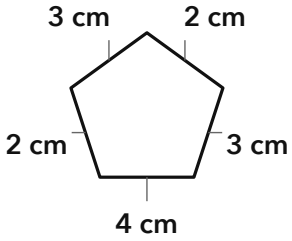


Figure 4: Perimeter = 14 cm

CORRECT WRONG

5.

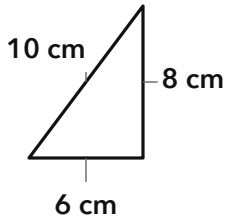


Figure 5: Perimeter = 22 cm

CORRECT WRONG

6.

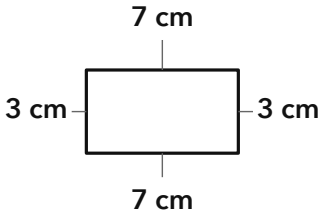


Figure 6: Perimeter = 17 cm

CORRECT WRONG

7.

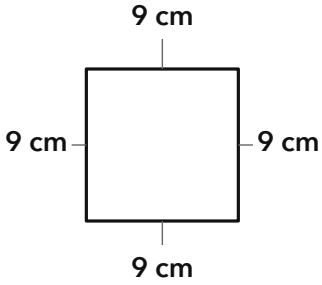


Figure 7: Perimeter = 36 cm

CORRECT WRONG

8.

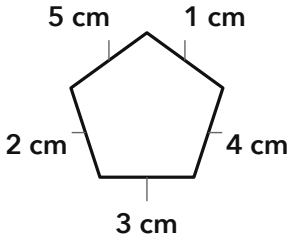


Figure 8: Perimeter = 15 cm

CORRECT WRONG

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 CORRECT example and one new WRONG example. Write a perimeter claim for each shape.

CORRECT

WRONG

CHALLENGE

Draw a pentagon with five different whole-number side lengths. Write its correct perimeter.

ANSWER KEY

Perimeter Detectives

GRADE 2 · MA.2.GR.2.2

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	Figure 1: Perimeter = 14 cm (triangle)	**CORRECT**	3 + 5 + 6 = 14.
2	Figure 2: Perimeter = 12 cm (rectangle)	**CORRECT**	2 + 4 + 2 + 4 = 12.
3	Figure 3: Perimeter = 15 cm (square)	**WRONG**	5 + 5 + 5 + 5 = 20, not 15.
4	Figure 4: Perimeter = 14 cm (pentagon)	**CORRECT**	2 + 3 + 4 + 2 + 3 = 14.
5	Figure 5: Perimeter = 22 cm (right_triangle)	**WRONG**	6 + 8 + 10 = 24, not 22.
6	Figure 6: Perimeter = 17 cm (rectangle)	**WRONG**	7 + 3 + 7 + 3 = 20, not 17.
7	Figure 7: Perimeter = 36 cm (square)	**CORRECT**	9 + 9 + 9 + 9 = 36.
8	Figure 8: Perimeter = 15 cm (pentagon)	**CORRECT**	1 + 4 + 3 + 2 + 5 = 15.

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)

- **CORRECT**: A square has side lengths of 4 cm, 4 cm, 4 cm, and 4 cm. Perimeter = 16 cm.
- **WRONG**: A triangle has side lengths of 2 cm, 4 cm, and 5 cm. Perimeter = 10 cm.

Challenge: A pentagon has side lengths of 1 cm, 2 cm, 3 cm, 4 cm, and 5 cm. Perimeter = 15 cm.

The categories are based on whether the stated perimeter equals the sum of every labeled side. For the two explanations, accept addition equations or clear drawings that show all side lengths were added.