Shape Detective

Sort shapes by their sides.

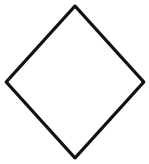
4.GM.1 "Name, describe, classify, and construct polygons and three-dimensional figures based on their attributes; recognize polygons and three-dimensional figures in real-life and mathematical situations. Identify points, lines, line segments..."

NAME _____ DATE _____

QUADRILATERAL

A quadrilateral is a closed, flat shape with four straight sides. A tilted shape still counts.

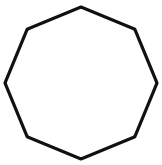
A rhombus



NOT A QUADRILATERAL

This shape does not have exactly four straight sides that make a closed shape. It may have fewer sides, more sides, or a curved edge.

An octagon



1 SORT

8 items

For each figure, circle FOUR or OTHER, then choose one figure from each group and explain how you know where it belongs.

1.

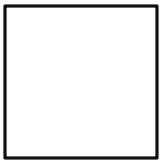


Figure 1

FOUR OTHER

2.

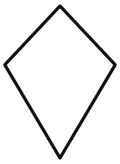


Figure 2

FOUR OTHER

3.

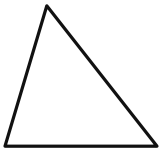


Figure 3

FOUR **OTHER**

4.

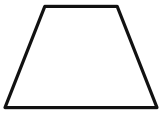


Figure 4

FOUR **OTHER**

5.

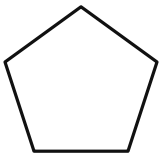


Figure 5

FOUR **OTHER**

6.

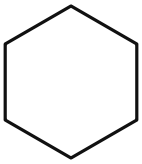


Figure 6

FOUR **OTHER**

7.

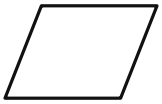


Figure 7

FOUR **OTHER**

8.



Figure 8

FOUR **OTHER**

2 PROVE IT

Explain your thinking

Choose one figure from each group and explain how you know where it belongs.

ITEM # _____ **HOW I KNEW** _____

ITEM # _____ **HOW I KNEW** _____

3 MAKE YOUR OWN

One of each

Name one new example of a quadrilateral and one new example of a shape that is not a quadrilateral.

FOUR _____

OTHER _____

CHALLENGE

Could four straight line segments fail to form a quadrilateral? Explain.

ANSWER KEY # Shape Detective

GRADE 4 · 4.GM.1

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	Figure 1 (square)	**FOUR**	It is closed and has four straight sides.
2	Figure 2 (kite)	**FOUR**	It is closed and has four straight sides.
3	Figure 3 (triangle)	**OTHER**	It has three sides.
4	Figure 4 (trapezoid)	**FOUR**	It is closed and has four straight sides.
5	Figure 5 (pentagon)	**OTHER**	It has five sides.
6	Figure 6 (hexagon)	**OTHER**	It has six sides.
7	Figure 7 (parallelogram)	**FOUR**	It is closed and has four straight sides.
8	Figure 8 (rectangle)	**FOUR**	It is closed and has four straight sides.

PART 2 · PROVE IT

Task: Choose one figure from each group and explain how you know where it belongs.
Accept any explanation that names the deciding feature from the rule box for the chosen item.

PART 3 · MAKE YOUR OWN (SAMPLE ANSWERS)

- **FOUR**: A right trapezoid
- **OTHER**: A circle

Challenge: Yes. If the four segments do not make a closed shape, they do not form a quadrilateral.

For PROVE IT, accept any two sorted figures if one is from each category and the student explains the choice using the number of straight sides. A quadrilateral must also be closed.