

Parallel Pair Detectives

Sort shapes by their pairs of parallel sides.

NY-4.G.2.b "Identify and name all quadrilaterals with 2 pairs of parallel sides as parallelograms."

NAME _____

DATE _____

PARALLELOGRAM

A parallelogram is a four-sided shape with two pairs of parallel sides. The opposite sides stay the same distance apart.

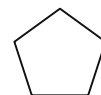
This four-sided shape has two pairs of parallel sides.



NOT A PARALLELOGRAM

A shape does not belong here if it does not have two pairs of parallel sides. It may have one pair or no pairs of parallel sides.

This shape is not a four-sided shape, so it cannot be a parallelogram.



1 SORT

8 items

For Part 1 SORT, circle the category for each figure, then for Part 2 PROVE IT, choose two figures and write how you counted their pairs of parallel sides.

1.



Figure 1

QUALIFIES

DOES NOT

2.



Figure 2

QUALIFIES

DOES NOT

3.



Figure 3

QUALIFIES

DOES NOT

4.

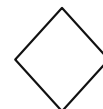


Figure 4

QUALIFIES

DOES NOT

5.

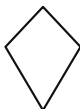


Figure 5

QUALIFIES

DOES NOT

6.

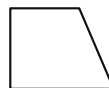


Figure 6

QUALIFIES

DOES NOT

7.

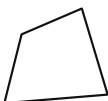


Figure 7

QUALIFIES

DOES NOT

8.



Figure 8

QUALIFIES

DOES NOT

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

For Part 3 MAKE YOUR OWN, draw and name one new quadrilateral for each category: one that QUALIFIES and one that DOES NOT.

QUALIFIES

DOES NOT

CHALLENGE

Draw a quadrilateral with exactly one pair of parallel sides. Choose its category and explain why it belongs there.

PART 1 • SORT

#	ITEM	CATEGORY	WHY
1	Figure 1 (square)	QUALIFIES	A square has two pairs of opposite sides that are parallel.
2	Figure 2 (rectangle)	QUALIFIES	A rectangle has two pairs of opposite sides that are parallel.
3	Figure 3 (trapezoid)	DOES NOT	A trapezoid has only one pair of parallel sides.
4	Figure 4 (rhombus)	QUALIFIES	A rhombus has two pairs of opposite sides that are parallel.
5	Figure 5 (kite)	DOES NOT	This kite does not have two pairs of parallel sides.
6	Figure 6 (right_trapezoid)	DOES NOT	A right trapezoid has only one pair of parallel sides.
7	Figure 7 (polygon)	DOES NOT	This quadrilateral has no two pairs of parallel sides.
8	Figure 8 (polygon)	QUALIFIES	This quadrilateral has two pairs of opposite sides that are parallel.

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)

- **QUALIFIES:** A rectangle that is 6 cm long and 3 cm wide.
- **DOES NOT:** A trapezoid with exactly one pair of parallel sides.

Challenge: A trapezoid with exactly one pair of parallel sides goes in DOES NOT because it does not have two pairs of parallel sides.

QUALIFIES: Figures 1, 2, 4, and 8. DOES NOT: Figures 3, 5, 6, and 7. In Part 2, students should identify whether each chosen figure has two pairs of parallel sides.