

Parallel Pair Patrol

Sort quadrilaterals by their parallel sides.

7.MG.3.b.i "Sort and classify quadrilaterals as parallelograms, rectangles, trapezoids, rhombi, and/or squares based on their properties: parallel/perpendicular sides and diagonals;"

NAME _____

DATE _____

TWO PARALLEL PAIRS

Both pairs of opposite sides are parallel. A parallelogram, rectangle, rhombus, and square belong in this category.

A slanted glass panel has each side parallel to the side across from it.

EXACTLY ONE PARALLEL PAIR

Only one pair of opposite sides is parallel. A trapezoid belongs in this category.

A stage platform has only its front and back edges running in the same direction.

1 SORT _____ 8 items

For each item, circle TWO PAIRS or ONE PAIR, then choose two items and explain the parallel-side evidence for each choice.

1. Both pairs of opposite sides are parallel.

TWO PAIRS

ONE PAIR

2. A rectangle has four right angles.

TWO PAIRS

ONE PAIR

3. Only the top and bottom sides are parallel.

TWO PAIRS

ONE PAIR

4. A rhombus has all four sides equal.

TWO PAIRS

ONE PAIR

5. The left and right sides are not parallel, but the top and bottom sides are parallel.

TWO PAIRS

ONE PAIR

6. A square has four equal sides and four right angles.

TWO PAIRS

ONE PAIR

7. Exactly one pair of opposite sides is parallel.

TWO PAIRS

ONE PAIR

8. One pair of opposite sides is parallel, and the other pair is not.

TWO PAIRS

ONE PAIR

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

Write one new quadrilateral example with TWO PAIRS of parallel sides and one new example with ONE PAIR of parallel sides.

TWO PAIRS _____

ONE PAIR _____

CHALLENGE

A quadrilateral has two pairs of parallel sides, four equal sides, and no right angles. Which names fit: parallelogram, rectangle, trapezoid, rhombus, or square? Explain your choices.

PART 1 • SORT

#	ITEM	CATEGORY	WHY
1	Both pairs of opposite sides are parallel.	TWO PAIRS	The figure has two pairs of parallel sides.
2	A rectangle has four right angles.	TWO PAIRS	Every rectangle has two pairs of opposite sides parallel.
3	Only the top and bottom sides are parallel.	ONE PAIR	There is exactly one pair of parallel sides.
4	A rhombus has all four sides equal.	TWO PAIRS	A rhombus has two pairs of opposite sides parallel.
5	The left and right sides are not parallel, but the top and bottom sides are parallel.	ONE PAIR	Only one pair of opposite sides is parallel.
6	A square has four equal sides and four right angles.	TWO PAIRS	Every square has two pairs of opposite sides parallel.
7	Exactly one pair of opposite sides is parallel.	ONE PAIR	The statement directly gives one parallel pair.
8	One pair of opposite sides is parallel, and the other pair is not.	ONE PAIR	Only one pair is 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)

- **TWO PAIRS:** A parallelogram has two pairs of opposite sides that are parallel.
- **ONE PAIR:** A trapezoid has exactly one pair of opposite sides that are parallel.

Challenge: It is a parallelogram and a rhombus. It is not a rectangle or square because it has no right angles, and it is not a trapezoid because it has two parallel pairs.

For Part 2, accept explanations that correctly identify whether both pairs or only one pair of opposite sides are parallel. Treat rectangles, rhombi, and squares as members of the parallelogram family with two parallel pairs.