

Nested Shape Sort

Sort quadrilaterals into a set and its subset.

5.5 "Geometry and measurement. The student applies mathematical process standards to classify two- dimensional figures by attributes and properties..."

NAME _____

DATE _____

INSIDE THE PARALLELOGRAM SET

Every figure in this activity is a quadrilateral. Put it inside the parallelogram subset if it has two pairs of opposite parallel sides.

A rectangle belongs inside the parallelogram subset.

OUTSIDE THE PARALLELOGRAM SET

These figures are still quadrilaterals, but they do not have two pairs of opposite parallel sides. Put them outside the parallelogram subset, but still in the larger quadrilateral set.

A four-sided garden bed with no parallel sides stays outside the parallelogram subset.

1 SORT

8 items

Part 1: Circle INSIDE or OUTSIDE for each figure; Part 2: Choose two items and explain which side pairs are parallel or not parallel.

1. A square

INSIDE

OUTSIDE

2. A rhombus

INSIDE

OUTSIDE

3. A kite with no parallel sides

INSIDE

OUTSIDE

4. A quadrilateral with two pairs of opposite parallel sides and no right angles

INSIDE

OUTSIDE

5. A quadrilateral with exactly one pair of parallel sides

INSIDE

OUTSIDE

6. A quadrilateral with no pairs of parallel sides

INSIDE

OUTSIDE

7. A quadrilateral with opposite sides measuring 7 cm and 4 cm, with both pairs of opposite sides parallel

INSIDE

OUTSIDE

8. A four-sided figure with one pair of opposite sides parallel and the other pair not parallel

INSIDE

OUTSIDE

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 that belongs INSIDE and one new quadrilateral that belongs OUTSIDE.

INSIDE _____

OUTSIDE _____

CHALLENGE

Choose a figure that belongs INSIDE. Write a three-level set chain from the largest set to the smallest set.

PART 1 • SORT

#	ITEM	CATEGORY	WHY
1	A square	INSIDE	A square has two pairs of opposite parallel sides.
2	A rhombus	INSIDE	A rhombus has two pairs of opposite parallel sides.
3	A kite with no parallel sides	OUTSIDE	It does not have two pairs of opposite parallel sides.
4	A quadrilateral with two pairs of opposite parallel sides and no right angles	INSIDE	Two pairs of opposite parallel sides make it a parallelogram.
5	A quadrilateral with exactly one pair of parallel sides	OUTSIDE	It has only one pair of parallel sides.
6	A quadrilateral with no pairs of parallel sides	OUTSIDE	It has no parallel side pairs.
7	A quadrilateral with opposite sides measuring 7 cm and 4 cm, with both pairs of opposite sides parallel	INSIDE	It has two pairs of opposite parallel sides.
8	A four-sided figure with one pair of opposite sides parallel and the other pair not parallel	OUTSIDE	It has only one pair of opposite parallel sides.

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)

- **INSIDE:** A rectangle.
- **OUTSIDE:** A quadrilateral with no parallel sides.

Challenge: quadrilateral → parallelogram → rectangle

For Part 2, students should name the number of pairs of opposite parallel sides for each chosen item. Accept equivalent wording, such as “both pairs” for INSIDE or “only one pair” and “no pairs” for OUTSIDE.