Mirror Match

Sort quadrilaterals by their lines of symmetry.

7.MG.3.b.iii "Sort and classify quadrilaterals as parallelograms, rectangles, trapezoids, rhombi, and/or squares based on their properties: lines of symmetry."

NAME _____ DATE _____

HAS A LINE OF SYMMETRY

A symmetric quadrilateral can be folded along at least one line so both halves match exactly.

A square has 4 lines of symmetry. 

HAS NO LINE OF SYMMETRY

An asymmetric quadrilateral cannot be folded along any line to make two matching halves.

A right trapezoid has no lines of symmetry. 

1 SORT

8 items

Look at each figure, then circle SYMMETRIC or ASYMMETRIC.

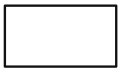
1. 

Figure 1

SYMMETRIC ASYMMETRIC

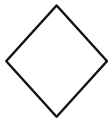
2. 

Figure 2

SYMMETRIC ASYMMETRIC

3. 

Figure 3

SYMMETRIC ASYMMETRIC

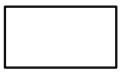
4. 

Figure 4

SYMMETRIC ASYMMETRIC

5. 

Figure 5

SYMMETRIC ASYMMETRIC

6. 

Figure 6

SYMMETRIC ASYMMETRIC

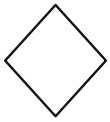
7. 

Figure 7

SYMMETRIC ASYMMETRIC

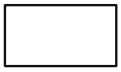
8. 

Figure 8

SYMMETRIC ASYMMETRIC

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

Part 2 PROVE IT: Pick two figures from Part 1 and explain whether each has a line of symmetry. Part 3 MAKE YOUR OWN: Draw and name one new SYMMETRIC quadrilateral and one new ASYMMETRIC quadrilateral.

SYMMETRIC

ASYMMETRIC

CHALLENGE

Draw a quadrilateral with exactly 2 lines of symmetry, then mark both symmetry lines.

ANSWER KEY # Mirror Match

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	Figure 1 (rectangle)	**SYMMETRIC**	A non-square rectangle has 2 lines of symmetry.
2	Figure 2 (rhombus)	**SYMMETRIC**	A non-square rhombus has 2 diagonal lines of symmetry.
3	Figure 3 (parallelogram)	**ASYMMETRIC**	A slanted parallelogram has no lines of symmetry.
4	Figure 4 (rectangle)	**SYMMETRIC**	A non-square rectangle has 2 lines of symmetry.
5	Figure 5 (parallelogram)	**ASYMMETRIC**	A slanted parallelogram has no lines of symmetry.
6	Figure 6 (parallelogram)	**ASYMMETRIC**	A slanted parallelogram has no lines of symmetry.
7	Figure 7 (rhombus)	**SYMMETRIC**	A non-square rhombus has 2 diagonal lines of symmetry.
8	Figure 8 (rectangle)	**SYMMETRIC**	A non-square rectangle has 2 lines of symmetry.

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)

- **SYMMETRIC**: An isosceles trapezoid with one vertical line of symmetry.
- **ASYMMETRIC**: A nonrectangular parallelogram with no lines of symmetry.

Challenge: Draw a non-square rectangle and mark its vertical and horizontal lines of symmetry.

Part 1 answers are SYMMETRIC, SYMMETRIC, ASYMMETRIC, SYMMETRIC, ASYMMETRIC, ASYMMETRIC, SYMMETRIC, SYMMETRIC. For Part 2, accept explanations that correctly use a fold test or identify matching mirror-image halves.