Fold and Sort

Use a fold test to check each figure.

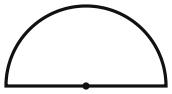
2.MG.3.b "Create figures with at least one line of symmetry using various concrete and pictorial representations."

NAME _____ DATE _____

FOLDS TO MATCH

A figure matches when you can fold it on a line and both halves line up. That fold is a line of symmetry.

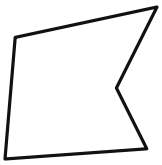
This semicircle has one line of symmetry.



DOES NOT MATCH

A figure does not match when no fold line makes two matching halves. It has no line of symmetry.

This five-sided figure has no fold line that makes matching halves.



1 SORT

8 items

Circle MATCHES or NO MATCH for each figure, then in Part 2 choose two figures and explain whether you could fold each one so both sides match.

1.

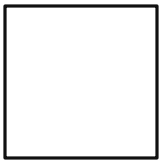


Figure 1

MATCHES **NO MATCH**

2.

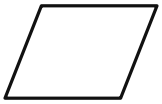


Figure 2

MATCHES **NO MATCH**

3.

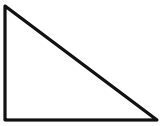


Figure 3

MATCHES **NO MATCH**

4.

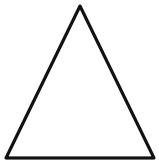


Figure 4

MATCHES **NO MATCH**

5.



Figure 5

MATCHES **NO MATCH**

6.

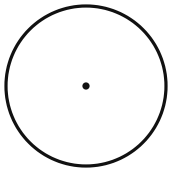


Figure 6

MATCHES **NO MATCH**

7.

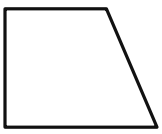


Figure 7

MATCHES **NO MATCH**

8.

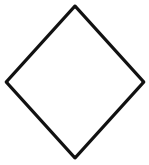


Figure 8

MATCHES **NO MATCH**

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

Draw and name one new figure that folds to match and one new figure that does not match.

MATCHES

NO MATCH

CHALLENGE

Draw a figure with exactly two lines of symmetry.

ANSWER KEY

Fold and Sort

GRADE 2 · 2.MG.3.b

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	Figure 1 (square)	**MATCHES**	A square has 4 lines of symmetry.
2	Figure 2 (parallelogram)	**NO MATCH**	THIS pictured parallelogram is neither a rectangle nor a rhombus and has no fold line. Slanted rhombi are also parallelograms, but have diagonal reflection lines.
3	Figure 3 (polygon)	**NO MATCH**	This scalene triangle has no line of symmetry.
4	Figure 4 (isosceles)	**MATCHES**	An isosceles triangle has 1 line of symmetry.
5	Figure 5 (rectangle)	**MATCHES**	A non-square rectangle has 2 lines of symmetry.
6	Figure 6 (circle)	**MATCHES**	A circle has many lines of symmetry.
7	Figure 7 (right_trapezoid)	**NO MATCH**	A right trapezoid has no line of symmetry.
8	Figure 8 (rhombus)	**MATCHES**	This NON-SQUARE rhombus has exactly two lines of symmetry along its diagonals. A square is also a rhombus, but has four symmetry lines.

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)

- **MATCHES**: A regular hexagon.
- **NO MATCH**: A scalene triangle.

Challenge: A noncircular ellipse (oval) has exactly two lines of symmetry, through its center along its long and short axes.

Sort answers are 1 MATCHES, 2 NO MATCH, 3 NO MATCH, 4 MATCHES, 5 MATCHES, 6 MATCHES, 7 NO MATCH, 8 MATCHES. In Part 2, accept explanations that describe folding on a line and checking whether both halves line up. Figure 3 is clearly scalene: relative side lengths 60,80,100 are all unequal, so no fold line matches its halves.