Fold and Find

Sort figures by their matching halves.

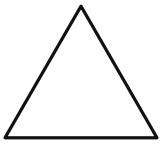
MA.3.GR.1.3 "Draw line(s) of symmetry in a two-dimensional figure and identify line-symmetric two-dimensional figures."

NAME _____ DATE _____

HAS A LINE OF SYMMETRY

A figure is in MATCHES if you can draw a line that splits it into two matching mirror halves. Folding on the line would make the halves fit exactly.

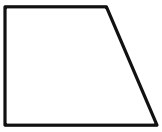
An equilateral triangle has 3 lines of symmetry.



HAS NO LINE OF SYMMETRY

A figure is in NO MATCH if no line splits it into matching mirror halves. No matter where you fold it, the halves will not fit exactly.

A right trapezoid has no line of symmetry.



1 SORT

8 items

Part 1 SORT: Circle MATCHES or NO MATCH for each figure; **Part 2 PROVE IT:** Choose two figures and explain whether a fold line would make matching halves.

1.



Figure 1

MATCHES **NO MATCH**

2.

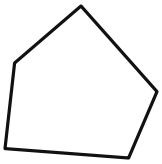


Figure 2

MATCHES **NO MATCH**

3.

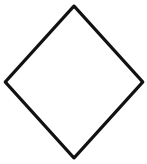


Figure 3

MATCHES **NO MATCH**

4.

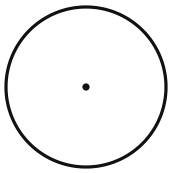


Figure 4

MATCHES **NO MATCH**

5.

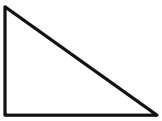


Figure 5

MATCHES **NO MATCH**

6.

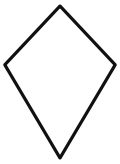


Figure 6

MATCHES **NO MATCH**

7.

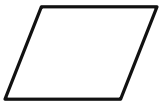


Figure 7

MATCHES **NO MATCH**

8.

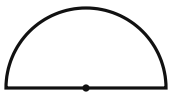


Figure 8

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

Part 3 MAKE YOUR OWN: Draw one new figure for MATCHES and one new figure for NO MATCH. Draw a symmetry line on your MATCHES figure.

MATCHES

NO MATCH

CHALLENGE

Name a figure with exactly 2 lines of symmetry, and tell where the lines go.

ANSWER KEY

Fold and Find

GRADE 3 · MA.3.GR.1.3

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	Figure 1 (rectangle)	**MATCHES**	A rectangle has 2 lines of symmetry, one vertical and one horizontal.
2	Figure 2 (polygon)	**NO MATCH**	Its sides and corners do not form matching mirror halves across any line.
3	Figure 3 (rhombus)	**MATCHES**	A rhombus has lines of symmetry along its diagonals.
4	Figure 4 (circle)	**MATCHES**	Any line through the center of a circle is a line of symmetry.
5	Figure 5 (polygon)	**NO MATCH**	This scalene right triangle has no line that makes matching halves.
6	Figure 6 (kite)	**MATCHES**	A kite has 1 line of symmetry through the top and bottom vertices.
7	Figure 7 (parallelogram)	**NO MATCH**	This parallelogram has unequal adjacent sides and non-right angles, so it has no line of symmetry.
8	Figure 8 (semicircle)	**MATCHES**	A semicircle has 1 line of symmetry through its center and perpendicular to its flat side.

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 octagon, with a line from top to bottom through its center.
- **NO MATCH**: A scalene triangle.

Challenge: A rectangle that is not a square. Its lines of symmetry go vertically and horizontally through its center.

For Part 2, students should refer to matching mirror halves or explain why no fold line can make matching halves. Accept any correctly drawn new examples in Part 3.