Fold or Not?

Sort figures by their lines of symmetry.

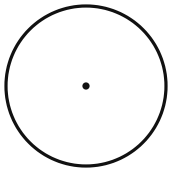
4.G.A.29.a "Identify line-symmetric figures and draw lines of symmetry."

NAME _____ DATE _____

HAS A LINE OF SYMMETRY

You can fold the figure on at least one straight line so both halves match exactly.

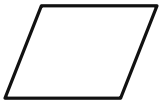
A circle has lines of symmetry through its center.



NO LINE OF SYMMETRY

There is no straight line you can fold on to make both halves match exactly.

A slanted parallelogram has no line of symmetry.



1 SORT

8 items

For Part 1, circle YES or NO for each figure and draw every line of symmetry on YES figures; for Part 2, choose one YES figure and one NO figure and explain how folding proves each choice.

1.

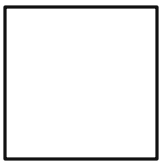


Figure 1

YES NO

2.

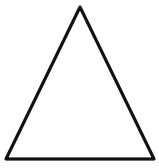


Figure 2

YES NO

3.

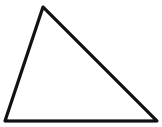


Figure 3

YES NO

4.



Figure 4

YES NO

5.

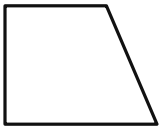


Figure 5

YES NO

6.

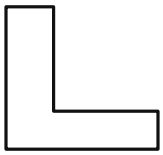


Figure 6

YES NO

7.

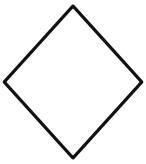


Figure 7

YES NO

8.

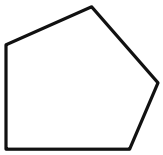


Figure 8

YES NO

2 PROVE IT

Explain your thinking

Choose one YES figure and one NO figure and explain how folding proves each choice.

ITEM # _____ **HOW I KNEW** _____

ITEM # _____ **HOW I KNEW** _____

3 MAKE YOUR OWN

One of each

For Part 3, write one new figure for YES and one new figure for NO, then tell how many lines of symmetry each has.

YES _____

NO _____

CHALLENGE

Name a figure not shown in Part 1 that has exactly two lines of symmetry, and tell where both lines go.

ANSWER KEY

Fold or Not?

GRADE 4 · 4.G.A.29.a

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	Figure 1 (square)	**YES**	A square has four lines of symmetry.
2	Figure 2 (isosceles)	**YES**	The line from the top corner to the middle of the opposite side divides the triangle into matching halves.
3	Figure 3 (polygon)	**NO**	The triangle has three different side lengths, so no fold makes its halves match.
4	Figure 4 (rectangle)	**YES**	A non-square rectangle has two lines of symmetry, one through each pair of opposite sides.
5	Figure 5 (right_trapezoid)	**NO**	Its perpendicular side and slanted side cannot fold onto each other.
6	Figure 6 (polygon)	**NO**	The two arms of this L-shaped figure have different lengths and widths, so no fold makes its halves match.
7	Figure 7 (rhombus)	**YES**	Each diagonal of a rhombus is a line of symmetry.
8	Figure 8 (polygon)	**NO**	This uneven pentagon has no line that divides it into matching halves.

PART 2 · PROVE IT

Task: Choose one YES figure and one NO figure and explain how folding proves each choice.
Accept any explanation that names the deciding feature from the rule box for the chosen item.

PART 3 · MAKE YOUR OWN (SAMPLE ANSWERS)

- **YES**: A regular hexagon has six lines of symmetry.
- **NO**: An uppercase block letter F with a shorter middle bar has no lines of symmetry.

Challenge: A block capital H with equal bars has two lines of symmetry, one vertical and one horizontal through its center.

For Part 2, a student might explain that Figure 2 folds into matching halves from its top corner to the middle of the opposite side, while Figure 6 has no fold that matches its unequal arms. Accept any correctly explained YES and NO pair.