Fold or Not?

Sort figures by their lines of symmetry.

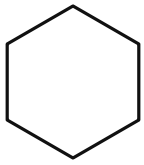
4.G.A.29 "Define a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. a. Identify line-symmetric figures and draw lines of symmetry."

NAME _____ DATE _____

HAS A LINE OF SYMMETRY

You can fold the figure along a line so both parts match exactly.

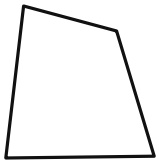
This figure matches when folded through its center.



NO LINE OF SYMMETRY

There is no line you can fold along to make both parts match exactly.

No fold makes the parts of this figure match.



1 SORT

8 items

For Part 1 SORT, circle YES or NO for each figure; for Part 2 PROVE IT, choose one figure from each category and explain how you know.

1.

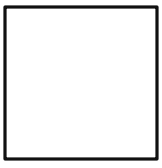


Figure 1

YES NO

2.

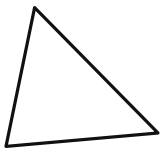


Figure 2

YES NO

3.

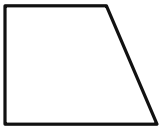


Figure 3

YES NO

4.

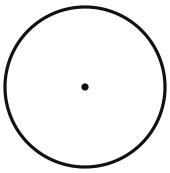


Figure 4

YES NO

5.



Figure 5

YES NO

6.

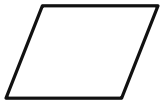


Figure 6

YES NO

7.

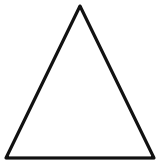


Figure 7

YES NO

8.

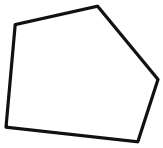


Figure 8

YES NO

2 PROVE IT

Explain your thinking

Choose one figure from each category and explain how you know.

ITEM # _____ **HOW I KNEW** _____

ITEM # _____ **HOW I KNEW** _____

3 MAKE YOUR OWN

One of each

For Part 3 MAKE YOUR OWN, draw one new YES figure and one new NO figure, label each one, and draw a line of symmetry on your YES figure.

YES

NO

CHALLENGE

Draw a figure with exactly two lines of symmetry, and show both lines.

ANSWER KEY

Fold or Not?

GRADE 4 · 4.G.A.29

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	Figure 1 (square)	**YES**	A square has lines of symmetry through its center.
2	Figure 2 (polygon)	**NO**	The three sides have different lengths, so no fold makes the halves match.
3	Figure 3 (right_trapezoid)	**NO**	A right trapezoid has no line of symmetry.
4	Figure 4 (circle)	**YES**	A line through the center of a circle divides it into matching halves.
5	Figure 5 (rectangle)	**YES**	A line through the center, parallel to either pair of sides, divides a rectangle into matching halves.
6	Figure 6 (parallelogram)	**NO**	This slanted parallelogram has no line of symmetry.
7	Figure 7 (isosceles)	**YES**	A line from the top point to the middle of the opposite side divides this triangle into matching halves.
8	Figure 8 (polygon)	**NO**	This uneven five-sided figure cannot be folded into matching halves.

PART 2 · PROVE IT

Task: Choose one figure from each category and explain how you know.
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 capital letter T with a vertical line through its center.
- **NO**: A capital letter L.

Challenge: A long oval with a horizontal and a vertical line through its center.

For Part 2, a response for Figure 1 could say that a fold down its center makes matching halves. A response for Figure 2 could say that no fold makes its halves match.