

# Fold and Find

Sort shapes by their fold lines.

**MA.2.GR.1.3** "Identify line(s) of symmetry for a two-dimensional figure."

NAME \_\_\_\_\_

DATE \_\_\_\_\_

## HAS A SYMMETRY LINE

A figure belongs here if you can fold it on a line and its two halves match exactly.

A rectangle has a line of symmetry from top to bottom and another from side to side.

## NO SYMMETRY LINE

A figure belongs here if no fold line makes two matching halves.

The capital letter F in plain block style has no line of symmetry.

### 1 SORT

8 items

Circle FOLDS or NO FOLD for each item, then choose two items and write how a fold test helped you decide.

1. A heart shape

FOLDS

NO FOLD

2. A triangle with 3 different side lengths

FOLDS

NO FOLD

3. A square

FOLDS

NO FOLD

4. A regular six-sided shape

FOLDS

NO FOLD

5. A square with only its top-right corner cut off

FOLDS

NO FOLD

6. A triangle with exactly 2 equal sides

FOLDS

NO FOLD

7. A regular five-sided shape

FOLDS

NO FOLD

8. The capital letter Z in plain block style

FOLDS

NO FOLD

## 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

Write one new figure for FOLDS and one new figure for NO FOLD.

**FOLDS** \_\_\_\_\_

\_\_\_\_\_

**NO FOLD** \_\_\_\_\_

\_\_\_\_\_

### CHALLENGE

Draw a figure with exactly 2 lines of symmetry. Draw both symmetry lines.

\_\_\_\_\_

\_\_\_\_\_

## PART 1 • SORT

| # | ITEM                                            | CATEGORY       | WHY                                                            |
|---|-------------------------------------------------|----------------|----------------------------------------------------------------|
| 1 | A heart shape                                   | <b>FOLDS</b>   | A vertical line makes matching left and right halves.          |
| 2 | A triangle with 3 different side lengths        | <b>NO FOLD</b> | A scalene triangle has no line of symmetry.                    |
| 3 | A square                                        | <b>FOLDS</b>   | A square has 4 lines of symmetry.                              |
| 4 | A regular six-sided shape                       | <b>FOLDS</b>   | A regular hexagon has 6 lines of symmetry.                     |
| 5 | A square with only its top-right corner cut off | <b>NO FOLD</b> | The cut corner has no matching corner on the other side.       |
| 6 | A triangle with exactly 2 equal sides           | <b>FOLDS</b>   | One line from the top point to the base makes matching halves. |
| 7 | A regular five-sided shape                      | <b>FOLDS</b>   | A regular pentagon has 5 lines of symmetry.                    |
| 8 | The capital letter Z in plain block style       | <b>NO FOLD</b> | No reflection line makes both halves match.                    |

## 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)

- **FOLDS:** A circle.
- **NO FOLD:** A four-sided shape with four different side lengths.

**Challenge:** Draw an oval with one vertical line and one horizontal line through its center.

For Part 2, accept explanations that describe matching halves when folded on a line, or explain why no fold makes matching halves. In the challenge, an oval has exactly 2 lines of symmetry.