Rectangle or Not?

Sort polygons by how you can find their area.

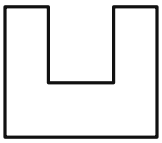
4.GM.2.2 "Find the area of polygons by determining if they can be decomposed into rectangles."

NAME _____ DATE _____

CAN SPLIT INTO RECTANGLES

You can cut this polygon into rectangles with no gaps or overlaps. Find each rectangle's area, then add the areas.

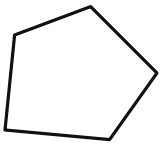
This U-shaped polygon can be cut into three rectangles.



CANNOT SPLIT INTO RECTANGLES

You cannot cut this polygon into rectangles without leaving gaps or going outside the shape. A slanted edge is a clue.

This five-sided polygon has slanted edges that rectangles cannot match.



1 SORT

8 items

Part 1 SORT: Circle YES or NO for each figure; Part 2 PROVE IT: Pick two figures, one from each group, and explain how you knew.

1.



Figure 1

YES NO

2.

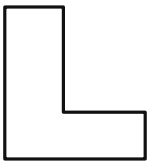


Figure 2

YES NO

3.

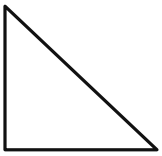


Figure 3

YES **NO**

4.

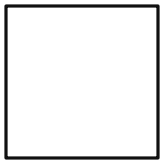


Figure 4

YES **NO**

5.

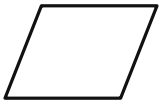


Figure 5

YES **NO**

6.

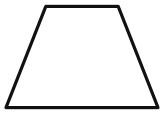


Figure 6

YES **NO**

7.

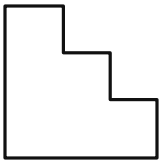


Figure 7

YES **NO**

8.

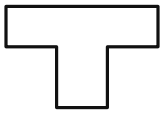


Figure 8

YES **NO**

2 PROVE IT

Explain your thinking

Pick two figures, one from each group, and explain how you knew.

ITEM # _____ **HOW I KNEW** _____

ITEM # _____ **HOW I KNEW** _____

3 MAKE YOUR OWN

One of each

Part 3 MAKE YOUR OWN: Draw one new polygon you would label YES and one you would label NO.

YES

NO

CHALLENGE

Draw a new L-shaped polygon by joining a 3 cm by 4 cm rectangle and a 2 cm by 5 cm rectangle without overlap. Show where the rectangles meet, then find the polygon's area.

ANSWER KEY

Rectangle or Not?

GRADE 4 · 4.GM.2.2

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	Figure 1 (rectangle)	**YES**	The whole polygon is one rectangle.
2	Figure 2 (polygon)	**YES**	One cut across the inside corner splits it into two rectangles.
3	Figure 3 (right_triangle)	**NO**	Its slanted edge cannot be formed by rectangle edges.
4	Figure 4 (square)	**YES**	A square is a rectangle, so no cut is needed.
5	Figure 5 (parallelogram)	**NO**	Its slanted edges cannot be formed by rectangle edges.
6	Figure 6 (trapezoid)	**NO**	Its slanted sides cannot be formed by rectangle edges.
7	Figure 7 (polygon)	**YES**	Cuts from the inside corners can split the steps into rectangles.
8	Figure 8 (polygon)	**YES**	Cuts at the two inside corners split the shape into rectangles.

PART 2 · PROVE IT

Task: Pick two figures, one from each group, and explain how you knew.
Accept any explanation that names the deciding feature from the rule box for the chosen item.

PART 3 · MAKE YOUR OWN (SAMPLE ANSWERS)

- **YES**: An H-shaped polygon made from three rectangles joined without overlaps.
- **NO**: An equilateral triangle.

Challenge: Join the 2 cm side of the second rectangle to part of a 4 cm side of the first rectangle, with one corner lined up. The area is $3 \times 4 + 2 \times 5 = 22$ square centimeters.

For Part 2, accept explanations that identify a way to make rectangles for a YES figure and explain why a slanted edge prevents an exact split into rectangles for a NO figure. For Part 3, accept other polygons that fit the two categories.