Cut and Sort

See what one corner-to-corner cut can make.

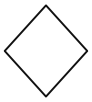
2.8.E "decompose two-dimensional shapes such as cutting out a square from a rectangle, dividing a shape in half, or partitioning a rectangle into identical triangles and identify the resulting geometric parts."

NAME _____ DATE _____

MAKES MATCHING TRIANGLES

A corner-to-corner cut makes two triangles that are the same size and shape.

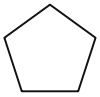
A rhombus can make two matching triangles.



DOES NOT MAKE MATCHING TRIANGLES

The cut does not make two triangles that are the same size and shape.

An odd-sided shape will not make two matching triangles with this cut.



1 SORT

8 items

For each figure, imagine a straight cut from the top-left corner to the bottom-right corner, circle MATCH or DIFFERENT, then choose two figures and explain how you know each answer.

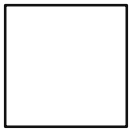
1. 

Figure 1

MATCH DIFFERENT

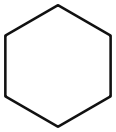
2. 

Figure 2

MATCH DIFFERENT

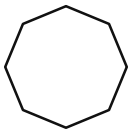
3. 

Figure 3

MATCH DIFFERENT

4. 

Figure 4

MATCH DIFFERENT

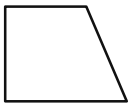
5. 

Figure 5

MATCH DIFFERENT

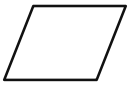
6. 

Figure 6

MATCH DIFFERENT

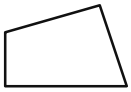
7. 

Figure 7

MATCH DIFFERENT

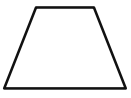
8. 

Figure 8

MATCH DIFFERENT

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

Draw one new shape that is MATCH and one new shape that is DIFFERENT when you make the same corner-to-corner cut.

MATCH

DIFFERENT

CHALLENGE

Draw a rectangle, make a corner-to-corner cut, and label the two matching triangle parts.

ANSWER KEY # Cut and Sort

GRADE 2 · TEKS 2.8.E

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	Figure 1 (square)	**MATCH**	A diagonal of a square makes two congruent triangles.
2	Figure 2 (hexagon)	**DIFFERENT**	A corner-to-corner cut of this hexagon does not make two triangles.
3	Figure 3 (octagon)	**DIFFERENT**	A corner-to-corner cut of this octagon does not make two triangles.
4	Figure 4 (rectangle)	**MATCH**	A diagonal of a rectangle makes two congruent triangles.
5	Figure 5 (right_trapezoid)	**DIFFERENT**	The diagonal makes two triangles with different side lengths and shapes.
6	Figure 6 (parallelogram)	**MATCH**	A diagonal of a parallelogram makes two congruent triangles.
7	Figure 7 (polygon)	**DIFFERENT**	The diagonal makes two triangles that are not the same size and shape.
8	Figure 8 (trapezoid)	**DIFFERENT**	The diagonal makes two triangles that are not the same size and shape.

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)

- **MATCH**: Draw a rhombus. Its corner-to-corner cut makes two matching triangles.
- **DIFFERENT**: Draw a pentagon. A corner-to-corner cut does not make two matching triangles.

Challenge: Draw a 4 by 2 rectangle with a diagonal from the top-left corner to the bottom-right corner. Label both parts triangle.

Answers are 1 MATCH, 2 DIFFERENT, 3 DIFFERENT, 4 MATCH, 5 DIFFERENT, 6 MATCH, 7 DIFFERENT, 8 DIFFERENT. For Part 2, accept explanations that state whether the cut makes two triangles and whether the triangles are the same size and shape.