Corner Detectives

Sort triangles by their angles

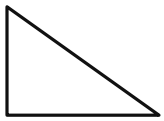
4.G.A.28.a "Describe right triangles as a category, and identify right triangles."

NAME _____ DATE _____

RIGHT TRIANGLE

A right triangle has one right angle. Its sides make a square corner at that angle.

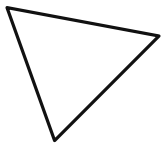
The left side and bottom side meet at a right angle.



NOT A RIGHT TRIANGLE

This triangle has no right angle. None of its corners is a square corner.

Look at all three corners. None is a right angle.



1 SORT

8 items

Circle RIGHT or OTHER for each figure; in Part 2, pick two figures and explain how you know where they belong.

1.

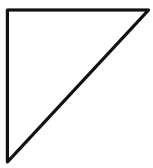


Figure 1

RIGHT OTHER

2.

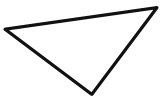


Figure 2

RIGHT OTHER

3.

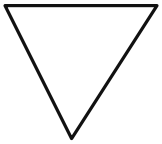


Figure 3

RIGHT **OTHER**

4.

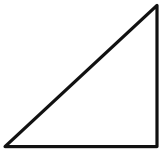


Figure 4

RIGHT **OTHER**

5.

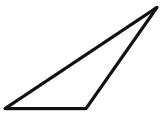


Figure 5

RIGHT **OTHER**

6.

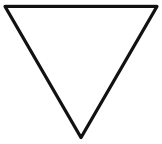


Figure 6

RIGHT **OTHER**

7.

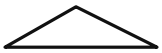


Figure 7

RIGHT **OTHER**

8.

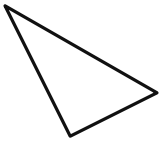


Figure 8

RIGHT **OTHER**

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 RIGHT triangle and one new OTHER triangle. Mark the right angle in your RIGHT triangle with a small square.

RIGHT

OTHER

CHALLENGE

Can a triangle have two equal sides and still be RIGHT? Draw one and explain how you know.

ANSWER KEY # Corner Detectives

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	Figure 1 (polygon)	**RIGHT**	The vertical and horizontal sides meet at a right angle.
2	Figure 2 (polygon)	**RIGHT**	The two slanted sides meet at a right angle at the bottom vertex.
3	Figure 3 (polygon)	**OTHER**	All three angles are less than a right angle.
4	Figure 4 (polygon)	**RIGHT**	The horizontal and vertical sides meet at a right angle.
5	Figure 5 (polygon)	**OTHER**	The angle at the middle vertex is greater than a right angle.
6	Figure 6 (polygon)	**OTHER**	All three angles are less than a right angle.
7	Figure 7 (polygon)	**OTHER**	The angle at the upper vertex is greater than a right angle.
8	Figure 8 (polygon)	**RIGHT**	The two slanted sides meet at a right angle at the bottom vertex.

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)

- **RIGHT**: A triangle with corners at (0, 0), (0, 3), and (4, 0), with a small square marking the angle at (0, 0).
- **OTHER**: A triangle with corners at (0, 0), (4, 0), and (2, 3).

Challenge: Yes. Draw a triangle with a vertical side and a horizontal side of equal length that meet. Mark their meeting corner as a right angle.

For Part 2, accept explanations that identify a right angle or explain that none of the three angles is a right angle. For example, Figure 1 has a right angle where two sides meet, while Figure 3 has no right angle.