Corner Detectives

Sort marked angles, explain two choices, then make your own.

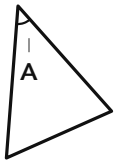
3.GM.1.3 "Classify angles within a polygon as acute, right, obtuse, and straight."

NAME _____ DATE _____

ACUTE ANGLE

An acute angle opens less than the corner of a square. Look only at the marked corner of the polygon.

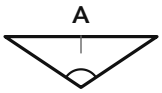
This marked corner is narrower than a square corner.



OBTUSE ANGLE

An obtuse angle opens more than the corner of a square but less than a straight line. Look only at the marked corner of the polygon.

This marked corner is wider than a square corner.



1 SORT

8 items

For each figure, look at corner A and circle ACUTE or OBTUSE.

1.

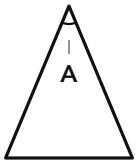


Figure 1

ACUTE OBTUSE

2.

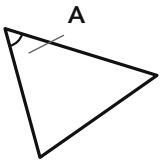


Figure 2

ACUTE OBTUSE

3.

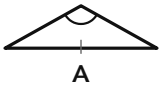


Figure 3

ACUTE **OBTUSE**

4.

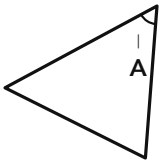


Figure 4

ACUTE **OBTUSE**

5.

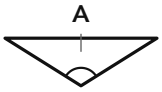


Figure 5

ACUTE **OBTUSE**

6.



Figure 6

ACUTE **OBTUSE**

7.

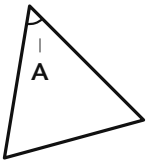


Figure 7

ACUTE **OBTUSE**

8.

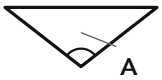


Figure 8

ACUTE **OBTUSE**

2 PROVE IT

Explain your thinking

Pick two numbered figures and explain how you know the kind of angle at A in each one.

ITEM # _____ **HOW I KNEW** _____

ITEM # _____ **HOW I KNEW** _____

3 MAKE YOUR OWN

One of each

Write one new angle measure for each category that could be a corner in a polygon.

ACUTE _____

OBTUSE _____

CHALLENGE

Draw a four-sided polygon with one acute corner and one obtuse corner. Mark both corners and name each kind.

ANSWER KEY # Corner Detectives

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	Figure 1 (polygon)	**ACUTE**	Corner A opens less than a square corner.
2	Figure 2 (polygon)	**ACUTE**	Corner A opens less than a square corner.
3	Figure 3 (polygon)	**OBTUSE**	Corner A opens more than a square corner.
4	Figure 4 (polygon)	**ACUTE**	Corner A opens less than a square corner.
5	Figure 5 (polygon)	**OBTUSE**	Corner A opens more than a square corner.
6	Figure 6 (polygon)	**OBTUSE**	Corner A opens more than a square corner.
7	Figure 7 (polygon)	**ACUTE**	Corner A opens less than a square corner.
8	Figure 8 (polygon)	**OBTUSE**	Corner A opens more than a square corner.

PART 2 · PROVE IT

Task: Pick two numbered figures and explain how you know the kind of angle at A in each one. Accept any explanation that names the deciding feature from the rule box for the chosen item.

PART 3 · MAKE YOUR OWN (SAMPLE ANSWERS)

- **ACUTE**: An acute corner could measure 35°.
- **OBTUSE**: An obtuse corner could measure 125°.

Challenge: A slanted parallelogram with a 60° corner marked acute and a 120° corner marked obtuse.

The sort key is 1 ACUTE, 2 ACUTE, 3 OBTUSE, 4 ACUTE, 5 OBTUSE, 6 OBTUSE, 7 ACUTE, 8 OBTUSE. For Part 2, accept explanations that compare the marked corner with a square corner.