

Angle Opening Sort

Look closely at each angle opening.

NY-4.G.1 "Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures."

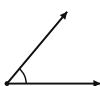
NAME _____

DATE _____

ACUTE ANGLES

An acute angle is smaller than a right angle. Its opening is less than 90° .

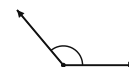
Example: an angle with a small opening.



OBTUSE ANGLES

An obtuse angle is wider than a right angle. Its opening is more than 90° but less than 180° .

Example: an angle with a wide opening.



1 SORT

8 items

Circle ACUTE or OBTUSE for each figure, then in Part 2 choose two figures and explain how you knew.

1.

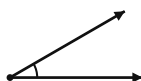


Figure 1

ACUTE

OBTUSE

2.



Figure 2

ACUTE

OBTUSE

3.

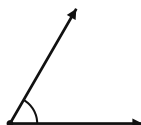


Figure 3

ACUTE

OBTUSE

4.

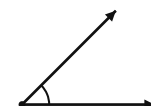


Figure 4

ACUTE

OBTUSE

5.



Figure 5

ACUTE

OBTUSE

6.

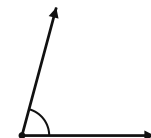


Figure 6

ACUTE

OBTUSE

7.

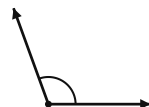


Figure 7

ACUTE

OBTUSE

8.

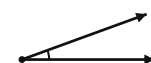


Figure 8

ACUTE

OBTUSE

2

PROVE IT

Explain your thinking

Pick two 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 acute angle and one new obtuse angle. Label each angle with its category.

ACUTE

OBTUSE

CHALLENGE

Draw a triangle with one obtuse angle and two acute angles. Label all three angles.

PART 1 • SORT

#	ITEM	CATEGORY	WHY
1	Figure 1 (angle 30°)	ACUTE	30° is less than 90° .
2	Figure 2 (angle 130°)	OBTUSE	130° is greater than 90° and less than 180° .
3	Figure 3 (angle 60°)	ACUTE	60° is less than 90° .
4	Figure 4 (angle 45°)	ACUTE	45° is less than 90° .
5	Figure 5 (angle 150°)	OBTUSE	150° is greater than 90° and less than 180° .
6	Figure 6 (angle 75°)	ACUTE	75° is less than 90° .
7	Figure 7 (angle 110°)	OBTUSE	110° is greater than 90° and less than 180° .
8	Figure 8 (angle 20°)	ACUTE	20° is less than 90° .

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)

- **ACUTE:** Draw an angle that measures 65° .
- **OBTUSE:** Draw an angle that measures 145° .

Challenge: A triangle with angles 110° , 40° , and 30° , with 110° labeled OBTUSE and 40° and 30° labeled ACUTE.

Items 1, 3, 4, 6, and 8 are ACUTE. Items 2, 5, and 7 are OBTUSE. For Part 2, accept explanations that compare each chosen angle with a right angle or correctly describe its opening.