Turn and Sort

Compare each angle to a quarter turn.

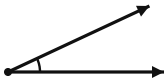
4.GR.B.5 "Identify angles as geometric figures formed by two rays that share a common endpoint and describe angle size as the amount of rotation between the two rays measured in degrees with reference to a circle."

NAME _____ DATE _____

90° OR LESS

An angle is formed by two rays that share an endpoint. A full circle is 360°, so a turn of 90° or less is no more than a quarter turn.

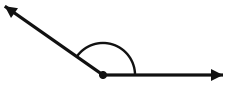
This 25° angle is less than a quarter turn.



MORE THAN 90°

The turn between the two rays is greater than 90°, which is more than a quarter of a circle.

This 145° angle is more than a quarter turn.



1 SORT

8 items

Circle SMALL or LARGE for each figure, then choose two figures from different categories and explain each choice using a quarter turn.

1.

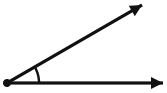


Figure 1

SMALL LARGE

2.

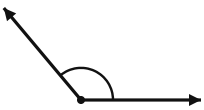


Figure 2

SMALL LARGE

3.



Figure 3

SMALL LARGE

4.

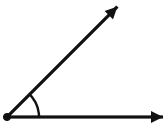


Figure 4

SMALL LARGE

5.

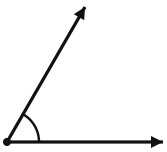


Figure 5

SMALL LARGE

6.

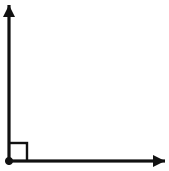


Figure 6

SMALL LARGE

7.

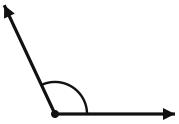


Figure 7

SMALL LARGE

8.



Figure 8

SMALL LARGE

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

Write the degree measure of one new angle for each category.

SMALL _____

LARGE _____

CHALLENGE

Start with a 90° angle and turn one ray 10° farther from the other ray. What is the new angle measure, and which category does it belong to?

ANSWER KEY # Turn and Sort

GRADE 4 · 4.GR.B.5

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	Figure 1 (angle 30°)	**SMALL**	30° is less than 90°.
2	Figure 2 (angle 130°)	**LARGE**	130° is greater than 90°.
3	Figure 3 (angle 155°)	**LARGE**	155° is greater than 90°.
4	Figure 4 (angle 45°)	**SMALL**	45° is less than 90°.
5	Figure 5 (angle 60°)	**SMALL**	60° is less than 90°.
6	Figure 6 (angle 90°)	**SMALL**	90° is exactly one quarter turn, so it belongs in the 90° or less category.
7	Figure 7 (angle 115°)	**LARGE**	115° is greater than 90°.
8	Figure 8 (angle 15°)	**SMALL**	15° 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)

- **SMALL**: 35°
- **LARGE**: 135°

Challenge: The new angle is 100°. It belongs in LARGE because 100° is more than a quarter turn.

For Part 2, accept explanations that compare each chosen figure to a 90° quarter turn. For example, Figure 4 is less than a quarter turn, while Figure 7 is more than a quarter turn.