Distance or Order?

Sort, prove it, then make your own.

6.NR.3.6 "Distinguish comparisons of absolute value from statements about order."

NAME _____ DATE _____

DISTANCE FROM ZERO

A distance comparison uses absolute value bars. It compares how far numbers are from 0.

$|-23| = |23|$. Both numbers are 23 units from 0.

ORDER ON A NUMBER LINE

An order statement tells which number is greater or less. Think about which number is farther right on a number line.

$18 > -1$. 18 is to the right of −1.

1 SORT

8 items

Circle DISTANCE or ORDER for each statement, then choose two items, one from each category, and explain how you knew.

1.	$\|-14\| > \|9\|$	DISTANCE ORDER
2.	$\|6\| = \|-6\|$	DISTANCE ORDER
3.	$-12 < -4$	DISTANCE ORDER
4.	$\|-3\| < \|11\|$	DISTANCE ORDER
5.	$7 > -2$	DISTANCE ORDER
6.	$-15 < 0$	DISTANCE ORDER
7.	$4 < 13$	DISTANCE ORDER
8.	$\|-20\| < \|25\|$	DISTANCE ORDER

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 one new DISTANCE statement and one new ORDER statement.

DISTANCE _____

ORDER _____

CHALLENGE

Use the same two numbers to write one DISTANCE statement and one ORDER statement. Explain why the comparison symbols can be different.

ANSWER KEY

Distance or Order?

GRADE 6 · 6.NR.3.6

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	**$\lvert -14 \rvert > \lvert 9 \rvert$**	**DISTANCE**	This compares distances from 0 using absolute values.
2	**$\lvert 6 \rvert = \lvert -6 \rvert$**	**DISTANCE**	This compares distances from 0 using absolute values.
3	**$-12 < -4$**	**ORDER**	This tells which number is farther left on a number line.
4	**$\lvert -3 \rvert < \lvert 11 \rvert$**	**DISTANCE**	This compares distances from 0 using absolute values.
5	**$7 > -2$**	**ORDER**	This tells which number is greater on a number line.
6	**$-15 < 0$**	**ORDER**	This tells which number is less on a number line.
7	**$4 < 13$**	**ORDER**	This tells which number is less on a number line.
8	**$\lvert -20 \rvert < \lvert 25 \rvert$**	**DISTANCE**	This compares distances from 0 using absolute values.

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)

- **DISTANCE**: **$\lvert -18 \rvert > \lvert 5 \rvert$**
- **ORDER**: **$-17 > -21$**

Challenge: $\lvert -8 \rvert > \lvert 3 \rvert$ and **$-8 < 3$**. The first statement compares distances from 0, but the second statement compares where the numbers are on the number line.

For Part 2, accept explanations that identify absolute value as distance from 0 and order as left-to-right position on a number line. In the challenge, students may use any two numbers that make the distance comparison and order statement use different symbols.