LESSON MAKER PRO

Distance From Zero

Compare rational numbers and their distances from zero.

GRADE 7 · 7.N.1

7.N.1 "Read, write, represent, and compare rational numbers, expressed as integers, fractions, and decimals. Explain and apply the concept of absolute value. Compare and order rational numbers expressed in various forms using the symbols "<"..."

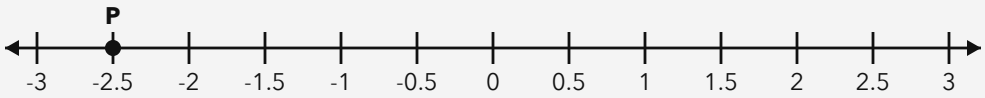
NAME _____ DATE _____

ABSOLUTE VALUE

Absolute value, written |x|, is a number's distance from 0 on a number line. Distance cannot be negative. To compare distances, find each absolute value first.

WORKED EXAMPLE

What is |P|? Use the number line.



1. P is at -2.5.
2. P is 2.5 units from 0.
3. |-2.5| = 2.5.

Answer: 2.5

PRACTICE 4 problems

1 Find |-3/4|.

ANSWER _____

2 Fill in <, >, or =: |-0.8| ___ |7/10|

ANSWER _____

3 Fill in <, >, or =: -1.25 ___ -6/5

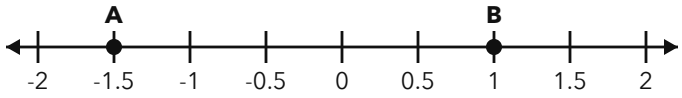
ANSWER _____

4 Order from least to greatest: -2/3, 0.5, -0.75

ANSWER _____

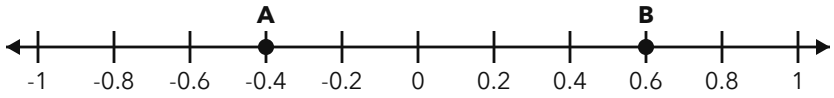
APPLY IT Show your work

1 Two game avatars are marked in meters from the center. Which avatar is farther from the center, and by how much?



ANSWER _____

2 The temperatures for two ski trips are marked in °C. Which trip's temperature is farther from 0°C, and by how much?



ANSWER _____

CHALLENGE One step up

A number x is 3/5 unit from 0. Find both possible values of x, then compare them using <.

WORK SPACE AND ANSWER

ANSWER KEY

Distance From Zero

GRADE 7 · 7.N.1

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find |-3/4|.	**3/4**
2	Fill in <, >, or =: |-0.8| ___ |7/10|	**>**
3	Fill in <, >, or =: -1.25 ___ -6/5	**<**
4	Order from least to greatest: -2/3, 0.5, -0.75	**-0.75, -2/3, 0.5**

PART 2 · APPLY IT

1. **A, by 0.5 m** A is 1.5 m from 0, and B is 1 m from 0. The difference is 0.5 m.
2. **B, by 0.2°C** A is 0.4°C from zero, and B is 0.6°C from zero. The difference is 0.2°C.

CHALLENGE

-3/5 < 3/5

Accept equivalent fractions or decimals for numerical answers. In the word problems, students should compare distances from zero, not signed positions.