LESSON MAKER PRO

Zero Distance Quest

Use number lines to find how far rational numbers are from zero.

GRADE 6 · MA.6.NSO.1.3

MA.6.NSO.1.3 "Given a mathematical or real-world context, interpret the absolute value of a number as the distance from zero on a number line. Find the absolute value of rational numbers."

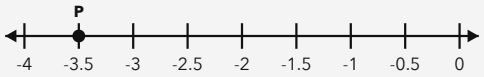
NAME _____ DATE _____

DISTANCE FROM ZERO

Absolute value tells a number's distance from 0 on a number line. Distance is never negative, so a positive number and its opposite have the same absolute value.

WORKED EXAMPLE

Use the number line. Find |P|.

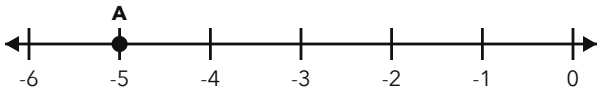


1. Point P is at -3.5 on the number line.
2. The distance from -3.5 to 0 is 3.5 units.
3. |-3.5| = 3.5.

Answer: 3.5

PRACTICE 6 problems

1 Use the number line. Find |A|.



ANSWER _____

2 Use the number line. Find |B|.



ANSWER _____

3 Find |-12|.

ANSWER _____

4 Find |8/9|.

ANSWER _____

5 Find |-1.6|.

ANSWER _____

6 Find |-13/6|.

ANSWER _____

APPLY IT Show your work

1 During a scuba simulation game, Noor's depth is -18.5 meters, where 0 is sea level. What is |-18.5|, and what does it tell you about Noor's depth?

WORK SPACE

ANSWER _____

2 In an augmented-reality scavenger hunt, a location has coordinate -7/8 kilometer, with 0 at the starting line. How far is the location from the starting line?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A rational number x has |x| = 11/6. List all possible values of x. Explain why both values work.

WORK SPACE AND ANSWER

ANSWER KEY # Zero Distance Quest

GRADE 6 · MA.6.NSO.1.3

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Use the number line. Find |A|.	**5**
2	Use the number line. Find |B|.	**2.5**
3	Find |-12|.	**12**
4	Find |8/9|.	**8/9**
5	Find |-1.6|.	**1.6**
6	Find |-13/6|.	**13/6**

PART 2 · APPLY IT

1. **18.5 meters, Noor is 18.5 meters below sea level.** Absolute value gives the distance from sea level. The negative depth means Noor is below sea level.
2. **7/8 kilometer** Find |-7/8|. Its absolute value is the location's distance from the starting line.

CHALLENGE

x = -11/6 or x = 11/6. Each number is 11/6 units from zero.

Accept equivalent fraction or decimal forms when applicable. For the challenge, students must list both the positive and negative values and connect absolute value to distance from zero.