

Distance From Zero

Use absolute value to measure how far a number is from 0.

GRADE 6 • 6.NR.3.5

6.NR.3.5 "Explain the absolute value of a rational number as its distance from zero on the number line; interpret absolute value as distance for a positive or negative quantity in a relevant situation."

NAME _____

DATE _____

ABSOLUTE VALUE MEANS DISTANCE

The absolute value of a rational number is its 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

Find $|-4.25|$.

1. Start at -4.25 on the number line.
2. Count the distance from -4.25 to 0.
3. The distance is 4.25.

Answer: $|-4.25| = 4.25$

PRACTICE 6 problems

1 Find $|-8|$.

ANSWER _____

2 Find $|5/6|$.

ANSWER _____

3 Find $|-1\frac{3}{4}|$.

ANSWER _____

4 Point R is at -3.2 on a number line. How far is R from 0?

ANSWER _____

5 A number is $4\frac{1}{2}$ units from 0 and is negative. What is the number?

ANSWER _____

6 Find the distance between $-7/10$ and 0.

ANSWER _____

APPLY IT Show your work

- 1** In a video game, Jordan's score changes by -12 points after a round. How far is Jordan's score change from no change?

WORK SPACE

ANSWER _____

- 2** A scuba diver is at $-6 \frac{1}{2}$ meters compared with the water's surface. How far is the diver from the surface?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A rational number has an absolute value of $2 \frac{3}{5}$ and is less than 0. What is the number? Explain why.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Find $ -8 $.	8
2	Find $ 5/6 $.	5/6
3	Find $ -1\ 3/4 $.	1 3/4
4	Point R is at -3.2 on a number line. How far is R from 0?	3.2 units
5	A number is $4\ 1/2$ units from 0 and is negative. What is the number?	-4 1/2
6	Find the distance between $-7/10$ and 0.	7/10 unit

PART 2 • APPLY IT

- 12 points** No change is represented by 0. The distance from -12 to 0 is $|-12|$, which equals 12.
- 6 1/2 meters** The water's surface is 0 meters. The distance from $-6\ 1/2$ to 0 is $|-6\ 1/2|$, which equals $6\ 1/2$.

CHALLENGE

The number is -2 3/5. A negative number that is $2\ 3/5$ units from 0 is -2 3/5.

Accept equivalent fraction forms, such as $10/6$ for $1\ 2/3$ if applicable. For the challenge, accept an explanation that identifies the number as negative and $2\ 3/5$ units from 0.