

Zero Distance Detectives

Use absolute value to measure distance 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

The absolute value of a 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. Zero is 0 units from zero.

WORKED EXAMPLE

Find $|-6.5|$.

1. Start at -6.5 on a number line.
2. Count the distance from -6.5 to 0.
3. The distance is 6.5 units.

Answer: 6.5

PRACTICE 6 problems

1 Find $|8|$.

ANSWER _____

2 Find $|-3/5|$.

ANSWER _____

3 Find $|1.25|$.

ANSWER _____

4 Find $|-7 \frac{1}{2}|$.

ANSWER _____

5 Find $|0|$.

ANSWER _____

6 Find $|-12|$.

ANSWER _____

APPLY IT Show your work

- 1** During a swim lesson, Jordan dives to $-2 \frac{1}{4}$ meters compared with the water's surface, which is 0 meters. How far is Jordan from the water's surface?

WORK SPACE

ANSWER _____

- 2** In a video game, Maya's score changes by -3.75 points after a challenge. How far is her score change from 0 points?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A submarine is at -1.8 kilometers compared with sea level. A drone is at $1 \frac{3}{4}$ kilometers compared with sea level. Which is farther from sea level? Explain using absolute value.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Find $ 8 $.	8
2	Find $ -3/5 $.	3/5
3	Find $ 1.25 $.	1.25
4	Find $ -7 \frac{1}{2} $.	7 $\frac{1}{2}$
5	Find $ 0 $.	0
6	Find $ -12 $.	12

PART 2 • APPLY IT

- 2 $\frac{1}{4}$ meters** Find $|-2 \frac{1}{4}|$. Jordan is $2 \frac{1}{4}$ meters from the water's surface.
- 3.75 points** Find $|-3.75|$. The score change is 3.75 points from 0.

CHALLENGE

The submarine is farther from sea level because $|-1.8| = 1.8$ and $|1 \frac{3}{4}| = 1.75$, and $1.8 > 1.75$.

Accept equivalent fraction forms, such as $15/2$ for $7 \frac{1}{2}$. Students should describe absolute value as distance from zero and give nonnegative answers.