

Distance From Zero

Use absolute value to find a quantity's size.

GRADE 6 • NY-6.NS.7.c

NY-6.NS.7.c "Understand the absolute value of a rational number as its distance from 0 on the number line. Interpret absolute value as magnitude for a positive or negative quantity in a real-world situation."

NAME _____

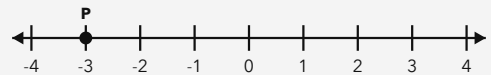
DATE _____

ABSOLUTE VALUE MEANS DISTANCE

Absolute value tells how far a number is from 0 on a number line. Distance is never negative, so $|-9| = 9$ and $|9| = 9$.

WORKED EXAMPLE

Look at point P on the number line.
Find $|P|$.

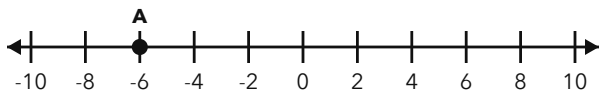


1. Point P is 3 units to the left of 0.
2. Distance from 0 is 3 units.
3. Absolute value is the distance from 0.

Answer: $|-3| = 3$

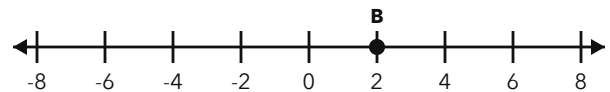
PRACTICE 6 problems

- 1** Use the number line. What is the absolute value of point A?



ANSWER _____

- 2** Use the number line. What is the distance from point B to 0?



ANSWER _____

- 3** Find $|-7/4|$.

ANSWER _____

- 4** Find $|5.2|$.

ANSWER _____

- 5** A cave is -12.5 meters relative to ground level. How far is the cave from ground level?

ANSWER _____

- 6** Which number has the greater magnitude: -11 or 8?

ANSWER _____

APPLY IT Show your work

- 1** In a video game tournament, Lani loses 4.75 points in one round. The loss is recorded as -4.75 points. What is the magnitude of her score change?

WORK SPACE

ANSWER _____

- 2** A science club's drone is $125/2$ meters below its launch level. Its position is represented by $-125/2$. How far is the drone from its launch level?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Noah says $|-2 \frac{1}{3}| = -2 \frac{1}{3}$ because the original number is negative. Explain Noah's error and write the correct absolute value.

WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Use the number line. What is the absolute value of point A?	6
2	Use the number line. What is the distance from point B to 0?	2
3	Find $ -7/4 $.	7/4
4	Find $ 5.2 $.	5.2
5	A cave is -12.5 meters relative to ground level. How far is the cave from ground level?	12.5 meters
6	Which number has the greater magnitude: -11 or 8?	-11

PART 2 • APPLY IT

- 4.75 points** Find $|-4.75|$. The loss is 4.75 points from 0, so its magnitude is 4.75 points.
- 125/2 meters, or 62.5 meters** Find $|-125/2|$. The distance is 125/2 meters, which is 62.5 meters.

CHALLENGE

Absolute value is distance from 0, so it cannot be negative. $|-2 \frac{1}{3}| = 2 \frac{1}{3}$.

Accept equivalent fraction and decimal forms when they are exact, such as 125/2 and 62.5. For the challenge, accept any explanation that states absolute value is a nonnegative distance from 0.