LESSON MAKER PRO

Points Past Zero

Read rational numbers on number lines and coordinate planes.

GRADE 6 · 6.NS.C.6

CCSS.Math.Content.6.NS.C.6 "Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates."

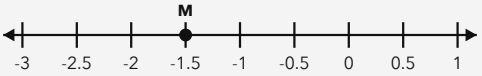
NAME _____ DATE _____

WHERE NUMBERS BELONG

A rational number is a point on a number line. Negative numbers are left of 0, and positive numbers are right of 0. On a coordinate plane, the x-coordinate tells left or right, and the y-coordinate tells up or down.

WORKED EXAMPLE

What rational number names point M? Write the answer as a fraction in simplest form.

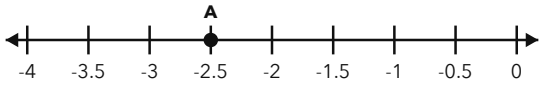


1. Point M is at -1.5.
2. Write -1.5 as -15/10.
3. Simplify -15/10 to -3/2.

Answer: -3/2

PRACTICE 6 problems

1 What rational number names point A? Write the answer as a fraction in simplest form.



ANSWER _____

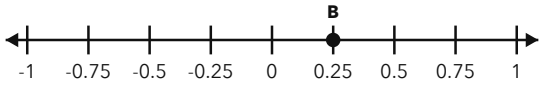
2 Which rational number is 3/4 unit to the left of 0 on a number line?

ANSWER _____

3 List these numbers from least to greatest: -1.2, 0, -7/5.

ANSWER _____

4 What rational number names point B? Write the answer as a fraction in simplest form.



ANSWER _____

5 Point T is at (-4, 3). In which quadrant is point T?

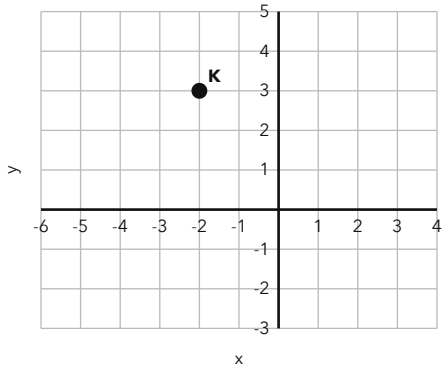
ANSWER _____

6 Point W is 2 units right of the origin and 5 units down from the origin. What are the coordinates of W?

ANSWER _____

APPLY IT Show your work

1 In a coding game, a robot begins at point K. It moves 4 units left and then 5 units down. What are the robot's new coordinates?



ANSWER _____

2 In a tunnel game, an avatar starts at -2 3/4 on a number line. It moves 4 1/2 units to the right. What is the avatar's new location?

WORK SPACE

ANSWER _____

CHALLENGE One step up

On a number line, point P is at -2 1/3 and point Q is at 1/3. Point R is exactly halfway between P and Q. What is the coordinate of R? Explain your reasoning.

WORK SPACE AND ANSWER

ANSWER KEY

Points Past Zero

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	What rational number names point A? Write the answer as a fraction in simplest form.	**-5/2**
2	Which rational number is 3/4 unit to the left of 0 on a number line?	**-3/4**
3	List these numbers from least to greatest: -1.2, 0, -7/5.	**-7/5, -1.2, 0**
4	What rational number names point B? Write the answer as a fraction in simplest form.	**1/4**
5	Point T is at (-4, 3). In which quadrant is point T?	**Quadrant II**
6	Point W is 2 units right of the origin and 5 units down from the origin. What are the coordinates of W?	**(2, -5)**

PART 2 · APPLY IT

1. **(-6, -2)** Start at (-2, 3). Moving left subtracts 4 from the x-coordinate, and moving down subtracts 5 from the y-coordinate.
2. **1 3/4** Add 4 1/2 to -2 3/4. The result is 1 3/4, which is to the right of 0.

CHALLENGE

-1. The points are 2 2/3 units apart, so halfway is 1 1/3 units to the right of -2 1/3.

Accept equivalent decimal forms for fraction answers when appropriate, such as -2.5 for -5/2 and 0.25 for 1/4. Accept coordinate pairs with correct values in either standard ordered-pair notation or clearly labeled x- and y-coordinates.