

Number Line Moves

Add and subtract rational numbers by tracking direction and distance.

GRADE 7 • NY-7.NS.1

NY-7.NS.1 "Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers. Represent addition and subtraction on a horizontal or vertical number line."

NAME _____

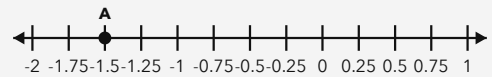
DATE _____

MOVE WITH MEANING

To add a positive rational number, move right on a horizontal number line. To add a negative rational number, move left. Subtracting a number means adding its opposite, so subtracting a negative moves right.

WORKED EXAMPLE

Point A is the starting number on the number line. Find $A + \frac{3}{4}$.

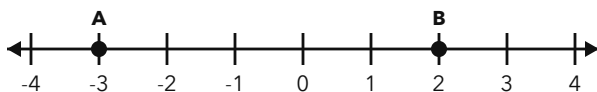


1. Point A is at $-1 \frac{1}{2}$.
2. Adding $\frac{3}{4}$ means move $\frac{3}{4}$ unit right.
3. $-1 \frac{1}{2} + \frac{3}{4} = -\frac{3}{4}$.

Answer: $-\frac{3}{4}$

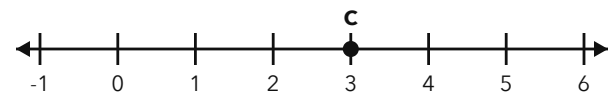
PRACTICE 6 problems

- 1** Use the points on the number line. Find $A + B$.



ANSWER _____

- 2** Point C marks the starting number. Find $C - 5$.



ANSWER _____

- 3** Find $-\frac{5}{6} + \frac{1}{3}$.

ANSWER _____

- 4** Find $\frac{7}{8} - (-\frac{3}{8})$.

ANSWER _____

- 5** Find $-2.6 + 0.9$.

ANSWER _____

- 6** Find $-1 \frac{2}{3} - 2 \frac{1}{6}$.

ANSWER _____

APPLY IT Show your work

- 1** At the start of a game tournament, Lena has $-2 \frac{1}{3}$ points. She earns $4 \frac{5}{6}$ points across two rounds. What is Lena's final score?

WORK SPACE

ANSWER _____

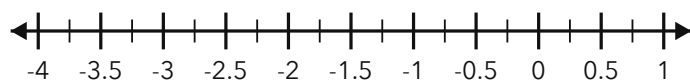
- 2** In a drone challenge, a drone is at $-\frac{2}{3}$ meter relative to its launch height. It rises $1 \frac{1}{2}$ meters, then descends $\frac{1}{4}$ meter. What is its final height relative to its launch height?

WORK SPACE

ANSWER _____

CHALLENGE One step up

On the number line, start at $-3 \frac{1}{4}$. Show the move for subtracting $-1 \frac{1}{2}$, then show the move for adding $-\frac{1}{2}$. What is the final point? Explain why the first move goes right.



WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Use the points on the number line. Find $A + B$.	-1
2	Point C marks the starting number. Find $C - 5$.	-2
3	Find $-5/6 + 1/3$.	$-1/2$
4	Find $7/8 - (-3/8)$.	$1\ 1/4$
5	Find $-2.6 + 0.9$.	-1.7
6	Find $-1\ 2/3 - 2\ 1/6$.	$-3\ 5/6$

PART 2 • APPLY IT

- 2 1/2 points** Add the earned points to the starting score: $-2\ 1/3 + 4\ 5/6 = 2\ 1/2$. Her net score change is $+4\ 5/6$ points.
- 7/12 meter** Add the rise and the descent as a negative change: $-2/3 + 1\ 1/2 - 1/4 = 7/12$.

CHALLENGE

Final point: $-2\ 1/4$. Subtracting a negative number is the same as adding its opposite, so subtracting $-1\ 1/2$ means move $1\ 1/2$ units right.

Accept equivalent fraction, mixed-number, or decimal forms when they are correct. For number-line items, accept correctly placed points and jumps that match the direction of each operation.