

Number Line Moves

Add and subtract rational numbers by tracking direction and distance.

GRADE 7 • 7.NS.A.1

CCSS.Math.Content.7.NS.A.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 diagram."

NAME _____

DATE _____

MOVE WITH PURPOSE

On a number line, adding a positive number means move right, and adding a negative number means move left. Subtracting a number is the same as adding its opposite. Keep track of your starting point, direction, and distance.

WORKED EXAMPLE

Find $2.6 + (-4.1)$.

1. Start at 2.6 on the number line.
2. Adding -4.1 means move 4.1 units left.
3. $6 - 4.1 = -1.5$.

Answer: -1.5

PRACTICE 6 problems

- 1** Use a horizontal number line. Start at -9 and move 14 units right. Find $-9 + 14$.

ANSWER _____

- 2** Use a horizontal number line. Start at 18 and move 25 units left. Find $18 - 25$.

ANSWER _____

- 3** Find $-5/6 + (-1/3)$.

ANSWER _____

- 4** Find $7/9 - 11/9$.

ANSWER _____

- 5** Find $-3.2 + 6.7$.

ANSWER _____

- 6** Subtracting a negative means moving right. Find $-8.4 - (-0.9)$.

ANSWER _____

APPLY IT Show your work

- 1** During two rounds of an online game, Lila gains 12.5 points and then loses 18.75 points. What is her total change in points?

WORK SPACE

ANSWER _____

- 2** For a media club project, the amount of storage used changes by $+3\frac{1}{4}$ GB after uploading videos and by $-5\frac{5}{8}$ GB after deleting old clips. What is the total change in storage used?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Evaluate $-2\frac{3}{5} - (-1\frac{7}{10}) + \frac{4}{15}$. Explain how subtracting a negative changes your number line movement.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Use a horizontal number line. Start at -9 and move 14 units right. Find $-9 + 14$.	5
2	Use a horizontal number line. Start at 18 and move 25 units left. Find $18 - 25$.	-7
3	Find $-5/6 + (-1/3)$.	-7/6
4	Find $7/9 - 11/9$.	-4/9
5	Find $-3.2 + 6.7$.	3.5
6	Subtracting a negative means moving right. Find $-8.4 - (-0.9)$.	-7.5

PART 2 • APPLY IT

1. **-6.25 points** Calculate $12.5 + (-18.75) = -6.25$. Her score decreases by 6.25 points overall.
2. **-2 3/8 GB** Calculate $3 \frac{1}{4} + (-5 \frac{5}{8}) = -2 \frac{3}{8}$. The project uses 2 3/8 GB less storage than before.

CHALLENGE

-19/30. Subtracting -1 7/10 is the same as adding 1 7/10, so move right 1 7/10 units.

Accept equivalent fraction forms, including $-1 \frac{1}{6}$ for $-7/6$. For the challenge, accept a correct explanation that subtracting a negative is equivalent to adding its opposite.