

Rational Number Radar

Compare, order, and find distance from zero.

GRADE 6 • NY-6.NS.7

NY-6.NS.7 "Understand ordering and absolute value of rational numbers."

NAME _____

DATE _____

ORDER AND DISTANCE

On a number line, numbers farther right are greater. Any negative number is less than any positive number. The absolute value of a number is its distance from 0, so it is never negative.

WORKED EXAMPLE

Order $-13/11$ and $17/12$ from least to greatest. Then find the absolute value of each number.

1. $-13/11$ is negative, and $17/12$ is positive.
2. A negative number is less than a positive number.
3. $|-13/11| = 13/11$.
4. $|17/12| = 17/12$.

Answer: $-13/11, 17/12; |-13/11| = 13/11$
and $|17/12| = 17/12$

PRACTICE 6 problems

- 1** Write $<$, $>$, or $=$ to make the statement true:
 -4.5 ____ $-9/2$

ANSWER _____

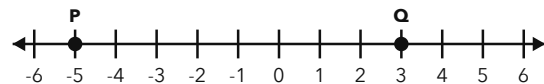
- 2** Order these numbers from least to greatest:
 $-3/4, 2/3, -1/6$

ANSWER _____

- 3** Find $|-11/8|$.

ANSWER _____

- 4** Use the number line. Which point is farther from 0? Then write the absolute value of each point.



ANSWER _____

- 5** Write $<$, $>$, or $=$ to make the statement true:
 $-2 \frac{1}{4}$ ____ -2.2

ANSWER _____

- 6** A rational number x has $|x| = 3/5$. If x is negative, what is x ?

ANSWER _____

APPLY IT Show your work

- 1** During a gaming tournament, Kai's score change is -6.75 points. Nia's score change is 2.5 points. Whose score change is lower? How far is each score change from 0?

WORK SPACE

ANSWER _____

- 2** At a pool, Diver A is at $-1\frac{1}{2}$ meters and Diver B is at $-2\frac{1}{4}$ meters, where 0 is the water's surface. Who is closer to the surface? How much farther from the surface is the other diver?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Mina says that $-\frac{7}{10}$ is greater than $-\frac{2}{3}$ because 7 is greater than 2. Is Mina correct? Explain by writing both numbers with a denominator of 30.

WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Write $<$, $>$, or $=$ to make the statement true: -4.5 ____ $-9/2$	$=$
2	Order these numbers from least to greatest: $-3/4$, $2/3$, $-1/6$	$-3/4$, $-1/6$, $2/3$
3	Find $ -11/8 $.	$11/8$
4	Use the number line. Which point is farther from 0? Then write the absolute value of each point.	P is farther from 0. $P = 5$ and $Q = 3$.
5	Write $<$, $>$, or $=$ to make the statement true: $-2\frac{1}{4}$ ____ -2.2	$<$
6	A rational number x has $ x = 3/5$. If x is negative, what is x ?	$-3/5$

PART 2 • APPLY IT

- Kai's score change is lower. Kai's change is 6.75 points from 0, and Nia's change is 2.5 points from 0.** A negative score change is less than a positive score change. Use absolute value to find each distance from 0.
- Diver A is closer to the surface. Diver B is $3/4$ meter farther from the surface.** Compare the absolute values: $|-1\frac{1}{2}| = 1\frac{1}{2}$ and $|-2\frac{1}{4}| = 2\frac{1}{4}$. The difference is $3/4$ meter.

CHALLENGE

Mina is not correct. $-7/10 = -21/30$ and $-2/3 = -20/30$. Since $-21/30 < -20/30$, $-7/10 < -2/3$.

Accept equivalent fractions and decimals when they represent the correct value. For the challenge, accept a clear explanation that shows $-21/30$ is farther left than $-20/30$.