

Rational Number Detectives

Compare positive and negative rational numbers with confidence.

GRADE 6 • 6.NS.C

CCSS.Math.Content.6.NS.C "Apply and extend previous understandings of numbers to the system of rational numbers."

NAME _____

DATE _____

COMPARE RATIONAL NUMBERS

You can compare fractions, decimals, and integers by rewriting them in the same form when needed. Any positive number is greater than any negative number. Between two negative numbers, the number closer to zero is greater.

WORKED EXAMPLE

Compare $\frac{9}{16}$ and 0.58 using $>$, $<$, or $=$.

1. Rewrite $\frac{9}{16}$ as a decimal: $\frac{9}{16} = 0.5625$.
2. Compare 0.5625 and 0.58.
3. Since 0.5625 is less than 0.58, use $<$.

Answer: $\frac{9}{16} < 0.58$

PRACTICE 6 problems

- 1** Compare $-\frac{3}{5}$ and -0.7 using $>$, $<$, or $=$.

ANSWER _____

- 2** Write these numbers from least to greatest: $\frac{1}{4}$, -0.3 , $-\frac{1}{5}$.

ANSWER _____

- 3** What is $|-12|$?

ANSWER _____

- 4** Which number is greater: $-2\frac{1}{4}$ or -2.2 ?

ANSWER _____

- 5** What is the opposite of $-\frac{5}{6}$?

ANSWER _____

- 6** Compare $\frac{7}{10}$ and 0.68 using $>$, $<$, or $=$.

ANSWER _____

APPLY IT Show your work

- 1** In an online game, Jalen's coin balance is -1.75 coins. Priya's coin balance is $-\frac{7}{4}$ coins. Whose balance is greater, or are the balances equal?

WORK SPACE

ANSWER _____

- 2** During science club's weather check, the temperature was -3.2 degrees C at 7 a.m. and $-3\frac{1}{8}$ degrees C at 8 a.m. Which time was warmer?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Point P is at $(1.9, \frac{2}{3})$, and point Q is at $(-1.9, -0.71)$. Which point is farther from the x-axis? Explain your reasoning.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Compare $-\frac{3}{5}$ and -0.7 using $>$, $<$, or $=$.	$-\frac{3}{5} > -0.7$
2	Write these numbers from least to greatest: $\frac{1}{4}$, -0.3 , $-\frac{1}{5}$.	-0.3, $-\frac{1}{5}$, $\frac{1}{4}$
3	What is $ -12 $?	12
4	Which number is greater: $-2\frac{1}{4}$ or -2.2 ?	-2.2
5	What is the opposite of $-\frac{5}{6}$?	$\frac{5}{6}$
6	Compare $\frac{7}{10}$ and 0.68 using $>$, $<$, or $=$.	$\frac{7}{10} > 0.68$

PART 2 • APPLY IT

- The balances are equal.** Rewrite $-\frac{7}{4}$ as -1.75 . Both players have a balance of -1.75 coins.
- 8 a.m. was warmer.** Rewrite $-3\frac{1}{8}$ as -3.125 . Since -3.125 is greater than -3.2 , the temperature at 8 a.m. was warmer.

CHALLENGE

Point Q is farther from the x-axis. Its distance from the x-axis is $|-0.71| = 0.71$, and point P's distance is $|\frac{2}{3}| = \frac{2}{3}$, which is about 0.67.

Accept equivalent fraction or decimal forms when students compare or order numbers. For the challenge, accept reasoning that compares the absolute values of the y-coordinates.