

Rational Number Rank

Compare and order numbers in many forms.

GRADE 7 • 7.NS.2.a

7.NS.2.a "Use multiple strategies (e.g., benchmarks, number line, equivalency) to compare (using symbols $<$, $>$, $=$) and order (a set of no more than four) rational numbers expressed as integers, fractions (proper or improper), mixed numbers, decimals..."

NAME _____

DATE _____

CHOOSE A COMMON FORM

To compare rational numbers, rewrite them in a form that makes their sizes easy to see, such as decimals or fractions with the same denominator. On a number line, numbers farther right are greater, and for negative numbers, the number closer to zero is greater.

WORKED EXAMPLE

Compare $7/20$ and 34% .

1. Rewrite $7/20$ as $35/100$.
2. Rewrite 34% as $34/100$.
3. Compare $35/100$ and $34/100$.
4. Since $35/100$ is greater, $7/20$ is greater than 34% .

Answer: $7/20 > 34\%$

PRACTICE 6 problems

1 Write $<$, $>$, or $=$. $-3/4$ ____ -0.68

ANSWER _____

2 Write $<$, $>$, or $=$. 125% ____ $1\ 1/4$

ANSWER _____

3 Order from least to greatest: $3/8$, 0.42 , 41% , $2/5$

ANSWER _____

4 Order from greatest to least: $-1\ 1/2$, -1.48 , $-7/6$, -1.2

ANSWER _____

5 Write $<$, $>$, or $=$. $-13/10$ ____ -128%

ANSWER _____

6 Write $<$, $>$, or $=$. Then explain in one sentence. 0.006 ____ $1/200$

ANSWER _____

APPLY IT Show your work

- 1** At an esports club tryout, four players completed these parts of a challenge: Aisha, 78%; Ben, 0.805; Carmen, $\frac{4}{5}$; Diego, $\frac{13}{16}$. Order the players from highest to lowest completion.

WORK SPACE

ANSWER _____

- 2** A student council poll tracked changes in support for four event ideas. The changes were -0.45 percentage point, $-\frac{2}{5}$ percentage point, $-\frac{47}{100}$ percentage point, and $-\frac{1}{2}$ percentage point. Order the changes from least to greatest.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A student says that $-0.625 < -\frac{5}{8}$ because 625 is larger than 5. Is the student correct? Explain, then order -0.625, $-\frac{5}{8}$, -62.4%, and -0.63 from least to greatest.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Write $<$, $>$, or $=$. $-\frac{3}{4}$ ____ -0.68	$-\frac{3}{4} < -0.68$
2	Write $<$, $>$, or $=$. 125% ____ $1\frac{1}{4}$	$125\% = 1\frac{1}{4}$
3	Order from least to greatest: $\frac{3}{8}$, 0.42 , 41% , $\frac{2}{5}$	$\frac{3}{8}$, $\frac{2}{5}$, 41%, 0.42
4	Order from greatest to least: $-1\frac{1}{2}$, -1.48 , $-\frac{7}{6}$, -1.2	$-\frac{7}{6}$, -1.2, -1.48, $-1\frac{1}{2}$
5	Write $<$, $>$, or $=$. $-\frac{13}{10}$ ____ -128%	$-\frac{13}{10} < -128\%$
6	Write $<$, $>$, or $=$. Then explain in one sentence. 0.006 ____ $\frac{1}{200}$	$0.006 > \frac{1}{200}$ because $\frac{1}{200} = 0.005$.

PART 2 • APPLY IT

1. **Diego, Ben, Carmen, Aisha** Rewrite the amounts as decimals: 0.8125 , 0.805 , 0.8 , and 0.78 . Order the decimals from greatest to least.
2. **$-\frac{1}{2}$, $-\frac{47}{100}$, -0.45 , $-\frac{2}{5}$** Rewrite the values as -0.50 , -0.47 , -0.45 , and -0.40 . The least value is farthest left on the number line.

CHALLENGE

No. $-\frac{5}{8} = -0.625$, so the two numbers are equal. $-0.63 < -0.625 = -\frac{5}{8} < -62.4\%$

Accept equivalent decimal, fraction, or percent forms when the comparison or order is correct. For explanations, accept a valid conversion, benchmark, common denominator, or number-line justification.