

Rational Number Race

Compare and order fractions, decimals, mixed numbers, and percents.

GRADE 6 • 6.NS.1.e

6.NS.1.e "Use multiple strategies (e.g., benchmarks, number line, equivalency) to compare and order no more than four positive rational numbers expressed as 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 values easy to see. You can use decimals, equivalent fractions, or benchmarks such as 0, $\frac{1}{2}$, and 1. Line up decimal places before you compare decimals.

WORKED EXAMPLE

Order $\frac{7}{10}$, 0.68, and $\frac{3}{4}$ from least to greatest.

1. Write $\frac{7}{10}$ as 0.70.
2. Write $\frac{3}{4}$ as 0.75.
3. Compare: $0.68 < 0.70 < 0.75$.

Answer: $0.68 < \frac{7}{10} < \frac{3}{4}$

PRACTICE 6 problems

- 1** Use $>$, $<$, or $=$ to compare: $\frac{5}{8}$ ____ 0.6

ANSWER _____

- 2** Order 45%, $\frac{1}{2}$, and 0.48 from least to greatest.

ANSWER _____

- 3** Order $1\frac{1}{4}$, 1.18, and $\frac{6}{5}$ from greatest to least.

ANSWER _____

- 4** Use $>$, $<$, or $=$ to compare: $\frac{7}{12}$ ____ 0.59

ANSWER _____

- 5** Order 0.375, $\frac{3}{8}$, and 40% from least to greatest. Use $=$ if needed.

ANSWER _____

- 6** Order $\frac{11}{10}$, 105%, 1.08, and $1\frac{1}{12}$ from greatest to least.

ANSWER _____

APPLY IT Show your work

- 1** Four students tracked the part of a reading challenge they finished: Ari finished $\frac{3}{5}$, Bo finished 0.625, Chen finished 65%, and Dani finished $\frac{2}{3}$. Order the students from greatest progress to least progress. Show one equivalent form for each number.

WORK SPACE

ANSWER _____

- 2** At a skate park, Luca jumped $1\frac{1}{2}$ meters, Mina jumped 1.45 meters, Omar jumped $\frac{7}{5}$ meters, and Priya jumped 135% of 1 meter. Order the jump distances from least to greatest.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Without converting every number to a decimal, order 0.4, $\frac{5}{12}$, 42%, and 0.425 from greatest to least. Write exactly two sentences explaining at least two comparison strategies.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Use $>$, $<$, or $=$ to compare: $5/8$ ____ 0.6	$5/8 > 0.6$
2	Order 45%, $1/2$, and 0.48 from least to greatest.	$45\% < 0.48 < 1/2$
3	Order $1\frac{1}{4}$, 1.18, and $6/5$ from greatest to least.	$1\frac{1}{4} > 6/5 > 1.18$
4	Use $>$, $<$, or $=$ to compare: $7/12$ ____ 0.59	$7/12 < 0.59$
5	Order 0.375, $3/8$, and 40% from least to greatest. Use $=$ if needed.	$0.375 = 3/8 < 40\%$
6	Order $11/10$, 105%, 1.08, and $1\frac{1}{12}$ from greatest to least.	$11/10 > 1\frac{1}{12} > 1.08 > 105\%$

PART 2 • APPLY IT

- Dani, Chen, Bo, Ari.** $2/3 = 0.666...$, $65\% = 0.65$, $0.625 = 0.625$, and $3/5 = 0.6$. Compare decimal equivalents. Since $0.666... > 0.65 > 0.625 > 0.6$, Dani has the greatest progress and Ari has the least.
- Priya, Omar, Mina, Luca** Rewrite the distances as 1.35, 1.4, 1.45, and 1.5 meters. Then order the decimal values from least to greatest.

CHALLENGE

$0.425 > 42\% > 5/12 > 0.4$. I changed 42% to 0.42 to compare it with 0.425, then used $42/100 = 126/300$ and $5/12 = 125/300$, and $5/12 = 25/60 > 24/60 = 0.4$.

Accept correct equivalent forms and either inequality chains or ordered lists when the requested direction is correct. For written explanations, accept valid use of decimal equivalents, common denominators, or benchmarks.