

Rational Number Race

Match, compare, and order numbers in different forms.

GRADE 6 • 6.NS.1

6.NS.1 "The student will reason and use multiple strategies to express equivalency, compare, and order numbers written as fractions, mixed numbers, decimals, and percents. Estimate and determine the percent represented by a given model (e.g...."

NAME _____

DATE _____

ONE VALUE, MANY FORMS

A fraction, decimal, and percent can name the same amount. To compare numbers, rewrite them in one form, such as decimals, then use place value to order them.

WORKED EXAMPLE

Show whether $\frac{3}{8}$, 0.375, and 37.5% are equivalent.

1. Divide: $3 \div 8 = 0.375$.
2. Change the decimal to a percent: $0.375 \times 100 = 37.5$.
3. All three forms name the same value.

Answer: $\frac{3}{8} = 0.375 = 37.5\%$

PRACTICE 6 problems

1 Complete: $\frac{7}{10} = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$

ANSWER _____

2 Complete: $1.25 = \underline{\hspace{1cm}}$ as a mixed number = $\underline{\hspace{1cm}}\%$

ANSWER _____

3 Order from least to greatest: 45%, $\frac{1}{2}$, 0.48

ANSWER _____

4 Use $<$, $>$, or $=$: $\frac{5}{6}$ $\underline{\hspace{1cm}}$ 0.82

ANSWER _____

5 A survey shows that 9 out of 12 students chose the same lunch option. What percent of students chose that option?

ANSWER _____

6 Complete: $0.005 = \underline{\hspace{1cm}}\%$

ANSWER _____

APPLY IT Show your work

- 1** Three coding teams solved part of their planned coding challenges. Team Pixel solved 0.81, Team Nova solved 82%, and Team Loop solved $\frac{5}{6}$. Order the teams from least to greatest portion completed.

WORK SPACE

ANSWER _____

- 2** In a reading challenge, Aria finished $1\frac{1}{4}$ of her target, Ben finished 118% of his target, and Chen finished 1.19 of his target. Who completed the greatest portion of the target?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Order $\frac{7}{8}$, 0.86, 87%, and $\frac{9}{10}$ from greatest to least. Explain your reasoning.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Complete: $7/10 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}\%$	0.7; 70%
2	Complete: $1.25 = \underline{\hspace{1cm}}$ as a mixed number = $\underline{\hspace{1cm}}\%$	1 1/4; 125%
3	Order from least to greatest: 45%, 1/2, 0.48	45%, 0.48, 1/2
4	Use <, >, or =: $5/6 \underline{\hspace{1cm}} 0.82$	>
5	A survey shows that 9 out of 12 students chose the same lunch option. What percent of students chose that option?	75%
6	Complete: $0.005 = \underline{\hspace{1cm}}\%$	0.5%

PART 2 • APPLY IT

1. **Team Pixel, Team Nova, Team Loop** Write the amounts as decimals: 0.81, 0.82, and 0.833... . Then compare the decimals.
2. **Aria, with 1 1/4 of the target, or 125%.** Convert the amounts to decimals: 1.25, 1.18, and 1.19. The greatest decimal is 1.25.

CHALLENGE

9/10, 7/8, 87%, 0.86. As decimals, the values are **0.90, 0.875, 0.87, and 0.86**, so this is the order from greatest to least.

Accept equivalent fraction, decimal, or percent forms when they match the requested value. For ordering items, accept any clear use of equivalent forms that gives the correct order.