LESSON MAKER PRO

Rational Number Routes

Use models and equivalent forms to compare rational numbers.

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...."

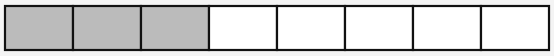
NAME _____ DATE _____

ONE VALUE, MANY FORMS

A decimal can become a percent by multiplying by 100 and adding the percent sign. To compare fractions, decimals, and percents, rewrite them in one form, such as decimals or percents. In a fraction model, use shaded parts over total equal parts.

WORKED EXAMPLE

Use the shaded fraction bar. Write the shaded amount as a decimal and as a percent.

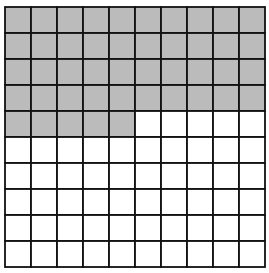


1. Write the fraction as 3/8.
2. Divide 3 by 8 to get 0.375.
3. Multiply 0.375 by 100 to get 37.5%.
4. The three forms name the same amount.

Answer: 3/8 = 0.375 = 37.5%

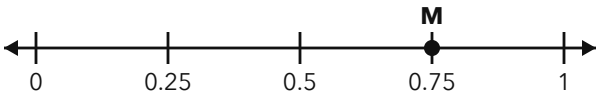
PRACTICE 6 problems

1 Use the hundred grid. Write the shaded amount as a fraction in simplest form, a decimal, and a percent.



ANSWER _____

2 Point M is marked on the number line. Write its value as a fraction in simplest form and as a percent.



ANSWER _____

_____

3 Write <, >, or = to compare 0.6 and 5/8.

ANSWER _____

4 Write 125% as a mixed number in simplest form.

ANSWER _____

5 Order these numbers from least to greatest: 7/10, 0.68, 3/4, 72%.

ANSWER _____

6 Write 0.006 as a percent.

ANSWER _____

APPLY IT Show your work

1 The Esports Club asked each member which games they would approve for the next meeting. Each member could approve more than one game. The table gives the fraction, decimal or percent of ALL MEMBERS who approved each game. Order the member-approval proportions from least to greatest. Then name the game with the greatest member approval.

ESPORTS CLUB MEMBER APPROVALS

Game	Proportion of Members Approving
Pixel Quest	0.55
Orbit Racers	3/5
Nova Builders	58%

ANSWER _____

2 Sam's daily step goal is 8,000 steps. On Saturday, Sam walks 10,400 steps. What percent of the goal did Sam complete?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Order these numbers from greatest to least: 1 1/8, 0.92, 87.5%, 5/6. Explain your reasoning by rewriting at least two numbers in decimal form.

WORK SPACE AND ANSWER

ANSWER KEY

Rational Number Routes

GRADE 6 · 6.NS.1

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Use the hundred grid. Write the shaded amount as a fraction in simplest form, a decimal, and a percent.	**9/20 = 0.45 = 45%**
2	Point M is marked on the number line. Write its value as a fraction in simplest form and as a percent.	**3/4 and 75%**
3	Write <, >, or = to compare 0.6 and 5/8.	**0.6 < 5/8**
4	Write 125% as a mixed number in simplest form.	**1 1/4**
5	Order these numbers from least to greatest: 7/10, 0.68, 3/4, 72%.	**0.68 < 7/10 < 72% < 3/4**
6	Write 0.006 as a percent.	**0.6%**

PART 2 · APPLY IT

1. **0.55 < 58% < 3/5; Orbit Racers** Rewrite the member-approval proportions as decimals: 0.55, 0.60, and 0.58. Compare them. Their percentages need not total 100% because one member may approve several games.
2. **130%** Divide 10,400 by 8,000 to get 1.3. Multiply by 100 to write the result as a percent.

CHALLENGE

1 1/8 > 0.92 > 87.5% > 5/6; for example, 1 1/8 = 1.125, 87.5% = 0.875, and 5/6 is about 0.833.

Accept equivalent fraction forms when they are simplified correctly. For written reasoning, accept any accurate common-form conversion, benchmark comparison, or number-line explanation.