Name_____ Date_____

6.2D order a set of rational numbers arising from mathematical and real-world contexts

ORDERING RATIONAL NUMBERS REVIEW NOTES

A. How do you convert a fraction to a decimal?

To write a fraction as a decimal, convert the fraction to an equivalent fraction with a denominator of 10 or 100.

$$\frac{3}{4} \overset{\times 25}{=} \frac{75}{100}$$

Then, say the fraction, *seventy-five hundredths* and use place value to write the decimal 0.75

$$\frac{19}{50} \overset{\times 2}{=} \frac{38}{100}$$

Then, say the fraction, *thirty-eight hundredths,* and use place value to write the decimals to write 0.38

If you cannot convert the fraction to an equivalent, you must divide the numerator by the denominator.

$$\frac{\text{numerator}}{\text{denominator}} \qquad \text{denominator}\overline{)\ \text{numerator}}$$

A decimal may terminate.

$$\frac{3}{4} = 4\overline{)3.00}$$

$$\begin{array}{r} 0.75 \\ 4\overline{)3.00} \\ -28\downarrow \\ \hline 20 \\ -20 \\ \hline 0 \end{array}$$

A decimal may repeat.

$$\frac{1}{3} = 3\overline{)1.00}$$

$$\begin{array}{r} 0.\overline{3} \\ 3\overline{)1.00} \\ -\ 9\downarrow \\ \hline 10 \\ -\ 9 \\ \hline 1 \end{array}$$

B. How do you convert a decimal to a fraction?

Say It, Write it, Simplify it

Say It: Say the name of the decimal using place value (not digits) 0.75 is said "seventy-five hundredths."

Write It: $\frac{75}{100}$ Write "seventy-five" as the numerator and "hundredths" as the denominator

Simply It: Now simplify $\frac{75}{100}$ to $\frac{3}{4}$ by using division $\frac{75}{100} \div \frac{25}{25}$ to $\frac{3}{4}$

Try It! Write each fraction as a decimal. Round to the nearest hundredth if necessary.

$\frac{3}{8}$ $\frac{7}{5}$

Try It! Write each decimal as a fraction or mixed number in simplest form.

0.55 10.6 -7.08

C. How do you convert a fraction to a percent?

Percent is a ratio whose second term is 100. The ratio of 27 to 100 is 27%.

To write a fraction as a percent, convert the fraction to an equivalent fraction with a denominator of 100. Then, write it as a percent.

$\frac{3}{4} \overset{\times 25}{=} \frac{75}{100} = 75\%$ OR, Change the fraction to a decimal and then the decimal to a percent

Try It!

$\mathbf{\frac{13}{25}}$

$\mathbf{\frac{18}{40}}$

D. How do you convert a percent to a fraction?

A percent is a ratio of a number to 100. Percent means "per hundred." To write 38% as a fraction, write a fraction with a denominator of 100.

$\frac{38}{100}$

Then write the fraction in simplest form.

$\frac{38}{100} = \frac{38 \div 2}{100 \div 2} = \frac{19}{50}$

So, $38\% = \frac{19}{50}$.

E. How do you convert a percent to a decimal?

To write 38% as a decimal, first write it as fraction.

$38\% = \frac{38}{100}$ $\frac{38}{100}$ means "38 divided by 100."

$$\begin{array}{r} 0.38 \\ 100\overline{)38.00} \\ -\underline{300} \\ 800 \\ -\underline{800} \\ 0 \end{array}$$

So, $38\% = 0.38$

F. How do you convert a decimal to a percent?

To write a decimal as a percent, move the decimal point two places to the right and write a percent sign.

0.89 = 89%

Try It!

Write the numbers in order from least to greatest.

$\mathbf{2.07} \quad \mathbf{2\frac{7}{10}} \quad \mathbf{2.67} \quad \mathbf{-2.67}$

Try It!

Write the numbers in order from greatest to least.

$\mathbf{\frac{4}{5}} \quad \mathbf{-1.4} \quad \mathbf{0.75} \quad \mathbf{-2\frac{2}{3}} \quad \mathbf{21\%}$

1. The table shows the portion of sixth graders who passed their benchmark exams.

Benchmark Exam Scores

Subject	Portion Passing Exam
English	82%
History	$\frac{4}{5}$
Math	$\frac{17}{20}$
Science	86%
Reading	$\frac{21}{25}$

Which of the following lists the subjects in order from least to greatest portion of students passing the benchmark exam?

A Science, Math, Reading, English, History

B English, History, Math, Reading, Science

C Math, History, Reading, English, Science

D History, English, Reading, Math, Science