Name *NOTES* Date

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

F D P

# ORDERING RATIONAL NUMBERS REVIEW NOTES

Review and try yourself for help on your graded assessment! ☺

★ denominator at the door numerator in the house! ★

## 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.

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

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

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

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.

numerator ÷ denominator

denominator ) numerator

A decimal may terminate.

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

$-28\downarrow$

$20$

$-20$

$0$

A decimal may repeat.

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

$-9\downarrow$

$10$

$-9$

$1$

## 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.

$\frac{3}{8}$

$8\overline{)3.000}$

$-24\downarrow$

$60$

$-56$

$40$

$-40$

$0$

"three eighths"

$\frac{7}{5}$ $\times 20 = \frac{140}{100}$ $\times 20$

$1.40$

"seven fifths"

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

**0.55**

$\frac{55 \div 5}{100 \div 5} = \frac{11}{20}$

"fifty-five hundredths"

**10.6**

$10\frac{6 \div 2}{10 \div 2} =$

$10\frac{3}{5}$

"ten and six tenths"

**−7.08**

$-7\frac{8 \div 4}{100 \div 4} =$

$-7\frac{2}{25}$

"negative seven and eight hundredths"

★ $\frac{\text{part}}{\text{whole}} = \frac{\%}{100}$

### 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!**

$\frac{13}{25} \overset{\times 4}{=} \frac{52}{100} = 52\%$

$\frac{18}{40} \div 2 = \frac{9}{20}$

$\frac{9}{20} \times 5 = \frac{45}{100} = 45\%$

### 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."

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

F D P

So, $38\% = 0.38$

move decimal two places to the left

### 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.

$0.89 = 89\%$

W

F D P

**Try It!**

Write the numbers in order from least to greatest.

$2.7$

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

Compare left to right

2.07
2.70
2.67
-2.67

L → G

$-2.67, 2.07, 2.67, 2\frac{7}{10}$

**Try It!**

Write the numbers in order from greatest to least.

$0.8 \quad -2.\overline{6} \quad 0.21$

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

Compare left to right

0.80
-1.40
0.75
-2.66
0.21

G → L

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

* Convert, then make it vertical! *

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

Benchmark Exam Scores

| Subject | Portion Passing Exam |
|---|---|
| English | 82% |
| History | $\frac{4}{5} \times \frac{20}{20} = \frac{80}{100}$ |
| Math | $\frac{17}{20} \times \frac{5}{5} = \frac{85}{100}$ |
| Science | 86% |
| Reading | $\frac{21}{25} \times \frac{4}{4} = \frac{84}{100}$ |

Convert & compare left to right

0.82

0.80 least

0.85

0.86 greatest

0.84

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

$\frac{4}{5}$, 82%, $\frac{21}{25}$, $\frac{17}{20}$, 86%

**A** Science, Math, Reading, English, History

**B** English, History, Math, Reading, Science

**C** Math, History, Reading, English, Science

**D** History, English, Reading, Math, Science

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