

Name: Key
Date: _____

Mr. Johnson
Math 8

Lesson 5.1 – Relating Fractions, Decimals, and Percents

Think it out:

How are fractions, decimals, and percents related?

(Student responses)

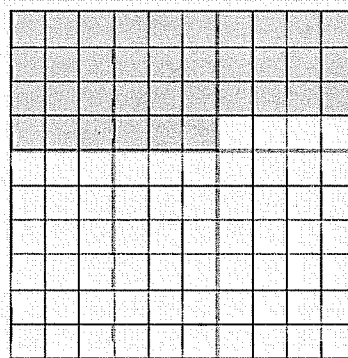
Notes:

To write a fraction as a percent, we write the fraction with a denominator that is a power of 10 (such as 10, 100, or 1000)

A hundred chart can be used to represent one whole, or 100%.
Therefore, each small square represents 1%.

We can describe the shaded part of the hundred chart in 3 ways:

- As a percent: 36%
- As a decimal: 0.36
- As a fraction: $\frac{36}{100}$



Extra Little Tidbits:

- A fraction in lowest terms means that the numerator and the denominator of a fraction cannot be divided by a common factor.
- A repeating decimal is a decimal that goes on forever! We use a bar over the last digit to show it is repeating. For example $\frac{1}{3} = 0.\overline{3}$

Examples:

1. Write the following percent as a fraction and a decimal.

a. 5%

$$\begin{aligned} &= \frac{5}{100} \div 5 &= 0.05 \\ &= \frac{1}{20} \end{aligned}$$

b. 17.5%

$$\begin{aligned} &\frac{175}{1000} \div 25 &= 0.175 \\ &= \frac{7}{40} \end{aligned}$$

c. 10%

$$\begin{aligned} &= \frac{10}{100} \div 10 &= 0.1 \\ &= \frac{1}{10} \end{aligned}$$

2. Write each fraction as a decimal and as a percent.

a. $\frac{7}{8}$

$$\begin{aligned} &0.875 \\ &8 \overline{)7.0} &= 0.875 \\ &\underline{64} & \\ &60 &= 87.5\% \\ &\underline{56} & \\ &40 & \end{aligned}$$

b. $\frac{2}{6} = \frac{1}{3}$

$$\begin{aligned} &0.3\overline{3} &= 0.\overline{3} \\ &3 \overline{)1.0} &= 33.\overline{3}\% \\ &\underline{-9} & \\ &10 & \\ &\underline{-9} & \\ &1 & \end{aligned}$$

c. $\frac{9}{1000}$

$$\begin{aligned} &0.009 &= 0.009 \\ &1000 \overline{)9.000} &= 0.9\% \\ &\underline{-9.000} & \\ &0 & \end{aligned}$$

repeating decimal

Assignment:

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#s 6-18