

## Lesson 8.2: Percents, Fractions, and Decimals

### Writing percents as decimals and fractions:

1. Write the percent as a fraction over 100.

$$45\% = \frac{45}{100}$$

2. Simplify the fraction

$$\frac{45}{100} \div 5 = \frac{9}{20}$$

3. Write the decimal

$$\frac{45}{100} = 0.45$$

-or-

$$45\% = 0.45$$

\*\* move decimal 2 spaces to the left

### Example:

35%

$$35\% = \frac{35}{100} \div 5 = \frac{7}{20}$$

$$\frac{35}{100} = \boxed{0.35}$$

-or-

$$35\% = 0.35$$

### Writing Fractions as Decimals and Percents:

If the denominator is a factor or multiple of 100...

1. Write an equivalent fraction with a denominator of 100

$$\frac{48}{200} \div 2 = \frac{24}{100}$$

2. Write the decimal and percent

$$\frac{24}{100} = 0.24 = 24\%$$

If the denominator is not a factor or multiple of 100...

1. Use long division to divide the numerator by the denominator

2. Write the decimal as a percent

\*\* move decimal 2 spaces to the right

### Example:

$$\frac{1}{8} =$$

$$\begin{array}{r} 0.125 \\ 8 \overline{) 1.000} \\ \underline{-8} \phantom{00} \\ 20 \phantom{0} \\ \underline{-16} \phantom{0} \\ 40 \\ \underline{-40} \\ 0 \end{array} \quad \boxed{0.125}$$

$$0.125 = \boxed{12.5\%}$$