

Problem with Percents? Self-Help Guide!

Understanding Percents Part 2 (Converting to Percents)

Recall that a percent is the number of parts per hundred. It is actually another way to represent a fraction or decimal as shown in the example below from Part 1 of Understanding Percents.

Example #1: What is a percent?

$n\%$ means n parts out of 100 or $\frac{n}{100}$, read as n hundredths.

In Part 1 of Understanding Percents, examples focused on converting percents to fractions and decimals. It may also be necessary to convert a fraction or decimal to a percent. Changing a decimal to a percent involves moving the decimal point two place values to the right (the hundredths place) because percent is the number of parts per hundred.

Example #10: Convert the decimal 0.456 to a percent.

Move the decimal point two place values to the right: $0.456 = 45.6\%$



Example #11: Convert the decimal 0.0162 to a percent.

Move the decimal point two place values to the right: $0.0162 = 01.62\% = 1.62\%$



It is always possible to convert a fraction to a decimal and then change the decimal to a percent by moving the decimal point two place values to the right as shown in the previous two examples. However, if the fraction has a denominator of 100, it is possible to convert directly to a percent. At times, it may be faster to produce a fraction equivalent to the given fraction with a denominator of 100 in order to convert to a percent. The following examples show both methods.

Example #12: Convert the fraction $\frac{6}{100}$ to a percent.

Fraction to decimal: Recall that the fraction bar is actually a division symbol.

$$\frac{6}{100} \text{ means } 6 \div 100 = 0.06$$

Decimal to percent: Move the decimal point two place values to the right.

$$0.06 = 06.\% = 6\%$$



Alternative method: $\frac{6}{100} = 6\%$

(Recall that a percent is the number of parts per hundred.)

Problem with Percents? Self-Help Guide!

Example #13: Convert the fraction $\frac{1}{5}$ to a percent.

Fraction to decimal: Recall that the fraction bar is actually a division symbol.

$$\frac{1}{5} \text{ means } 1 \div 5 = 0.2$$

Decimal to percent: Move the decimal point two place values to the right, adding zeros as place holders when necessary.

$$0.2 = 20\%$$

Alternative method: $\frac{1}{5} \cdot \frac{20}{20} = \frac{20}{100} = 20\%$

(Recall that a percent is the number of parts per hundred.)

Example #14: Convert the fraction $\frac{3}{8}$ to a percent.

Fraction to decimal: Recall that the fraction bar is actually a division symbol.

$$\frac{3}{8} \text{ means } 3 \div 8 = 0.375$$

Decimal to percent: Move the decimal point two place values to the right.

$$0.375 = 37.5\%$$

In this case, the alternative method would be difficult and should not be used.

Another option is to use a proportion to change a fraction to a percent. Example 14 is reworked below using this method:

$$\frac{3}{8} = \frac{x}{100}$$

Multiply both sides by 8 and 100:

$$300 = 8x$$

Divide both sides by 8:

$$37.5 = x$$

So $\frac{3}{8} = 37.5\%$.