



# Concepts Percents

Based on power point presentations by Pearson Education, Inc.  
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# Learning Objectives

1. Memorize the definition of percent.
2. Add and remove the percent symbol.
3. Solve simple percent problems.

NOTE: This lesson contains some examples. You can find more examples in the “Examples” document also located in the appropriate MOM Learning Materials folder.

# 1. The Definition of Percent

The symbol % means **percents**. It is sometimes written instead of the fraction  $\frac{1}{100}$ .

That is,  $1\% = 1 \cdot \frac{1}{100} = \frac{1}{100}$ .

## 2. Add and Remove the Percent Symbol (1 of 2)

Sometimes we want to use the percent symbol % and sometimes we don't. Depending on what you need, following are the procedures for adding and removing a percent symbol.

### **Add a percent symbol to a number:**

Multiply a given number by 100 and add the percent symbol. You might be asked to express your answer in decimal form or as a reduced fraction.

Example 1:

Express 0.4 as a percent.

Multiply the number by 100 and add the percent symbol.

$$0.4(100)\% = 40\%$$

Nothing else needs to be done.

# Add and Remove the Percent Symbol (2 of 2)

## Remove the symbol from a percent:

Divide the number portion of a given percent by 100 and drop the percent symbol. You might be asked to express your answer in decimal form or as a reduced fraction.

Example 2:

Express 75% without a percent symbol.

Divide the number portion by 100 and drop the percent symbol.

$$\frac{75}{100} = \frac{3}{4}$$

We find that 75% equals  $\frac{3}{4}$  in fraction form.

In decimal form it equals 0.75 (divide 3 by 4) using a calculator!

### 3. Simple Percent Problems (1 of 2)

Many applications involving percents are based on the following formula:

**$A = P \cdot B$**  ( **$P$**  times  **$B$**  or simply  **$PB$** ) where

**$A$**  - is the amount resulting when a percent is applied to some base (amount)

**$P$**  - is a percent expressed as a decimal

**$B$**  - is the base (amount) to which a percent is applied.

# Simple Percent Problems (2 of 2)

Example 3:

What number is 20% of 225?

Let's insert the given information into the formula  $A = PB$ .

Given are the base  $B = 225$  and the percent  $P = 20\% = 0.2$ . Remember, the percent must be expressed as a decimal. The number we are asked to find is  $A$ , the amount resulting when the percent is applied to the base.

Please note that the word "of" in the question is replaced by the multiplication in the formula.

Then  $A = 0.2(225) = 45$ . Remember, the multiplication symbol can be replaced by a set of parentheses.

We find that **45** is the amount resulting when 20% is applied to 225.