

Lesson 46: Percents - Finding a Number When a Percent is Given

Purpose of lesson: You will learn how to find a number if the percent and part of the number are given.



Before we work with percents, we need to know how to divide using decimals. Decimals can be in the divisor, the dividend or both. Your answer (quotient) can be a decimal.

You divide decimals in the same way that you divide whole numbers. Thus, all decimals need to be converted to whole numbers.

In the following example:

$$.30 \overline{) 9.00}$$

Step 1) In the divisor, move the decimal two places to the right.

.30 \implies 30 (in order to make it a whole number)

Step 2) In the dividend, move the decimal the same number of places as the divisor (2 places).

$$9.00 \implies 900.$$

Now you are working with whole numbers.

Step 3) Divide to get the quotient(answer) = 30.

$$\begin{array}{r} 30 \text{ quotient} \\ \text{divisor } 30 \overline{) 900 \text{ dividend}} \end{array}$$

The problems will look like this:

Example A: 30% of what number is 9? (See the problem explained by Idea Man above.)

Note: Divide the percent (30%) into the whole number (9).

Step 1) Change the percent (%) to a decimal.

$$30\% = .30$$

Step 2) **Divide** .30 into 9.00.

$$.30 \overline{)9.00}$$

Step 3) Move the decimal point 2 places to the right.

$$30 \overline{)900.}$$

Step 4) Solve the problem.

$$\begin{array}{r} 30 \\ 30 \overline{)900} \end{array}$$

30 is the answer

Example B: 25% of what number is 48?

Note: Divide the percent (25%) into the whole number (48).

Step 1) Change the percent (%) to a decimal.

$$25\% = .25$$

Step 2) **Divide** .25 into 48.00.

$$.25 \overline{)48.00}$$

Step 3) Move the decimal point 2 places to the right.

$$25 \overline{)4800.}$$

Step 4) Solve the problem.

$$\begin{array}{r} 192 \\ 25 \overline{)4800} \end{array}$$

192 is the answer

Now it's your turn to try some of these problems!

Take Lesson 46 Quiz 1

Take Lesson 42 Quiz 2