

Solving Percents using Algebra

There are always different ways to solve problems. If you know how to solve equations, we can solve percent problems algebraically.

Example 1 12 is what percent of 30.

Since I'm looking for a percent, I will call that x . The word "is" is translated into math as "=". "Of" indicates a multiplication problem,

Writing an equation $12 = x(30)$

$$\frac{12}{30} = x; \quad \text{that simplifies to } 4/10$$
$$40\% = x$$

Example 2 Ted received a 10% raise and his new hourly rate is \$13.20. What was his hourly rate of pay before he got the raise?

Looking for his hourly rate, we will call that x .

Writing an equation, his new rate is his old rate plus his percent increase, and that equals \$13.20.

$$x + .10x = 13.20$$

$$1.10x = 13.20$$

$$x = \frac{13.20}{1.10}$$

$$x = 12.00 \quad \text{His original pay was } \$12.00$$