

Resource Algebraic Terminology

Some notes about algebraic terminology

Formulas are a type of algebraic equation. You have probably seen algebraic equations in previous math classes. For example:

$$y = x + 3$$

Each side of this equation is called an algebra expression.

$$\overbrace{y}^{\text{expression}} = \overbrace{x + 3}^{\text{expression}}$$

So “ $x + 3$ ” is an expression and “ y ” is an expression. The equal sign indicates that the two expressions are equal, thus forming an algebraic equation.

Therefore, an algebraic equation must have an equal sign with expressions on each side.

$$\text{Expression} = \text{Expression}$$

[Note that $y = x + 3$ is exactly the same as $x + 3 = y$].

An equation defines a sequence of calculations, often using algebra to shorten the information. In the example above, this sequence is:

1. Start with x .
2. Add three to x .
3. The result is y .

Notice how much shorter $y = x + 3$ is than the three listed steps.

The word **formula** is usually used to express important and non-changing relationships, especially in contexts such as science, business, medicine, sports, or statistics. For example, the formula for the area of a rectangle is $A = L \cdot W$.

This is a formula because the relationship between area and the length and width of a rectangle is always the same.

An example of an equation would be if you had a job in which you make \$12 per hour. This relationship could be written algebraically as $P = 12h$ where P is your pay in dollars, and h is the number of hours you work. If you get a raise, the relationship would change. You also might call the equation a model because it models a situation using mathematics.

