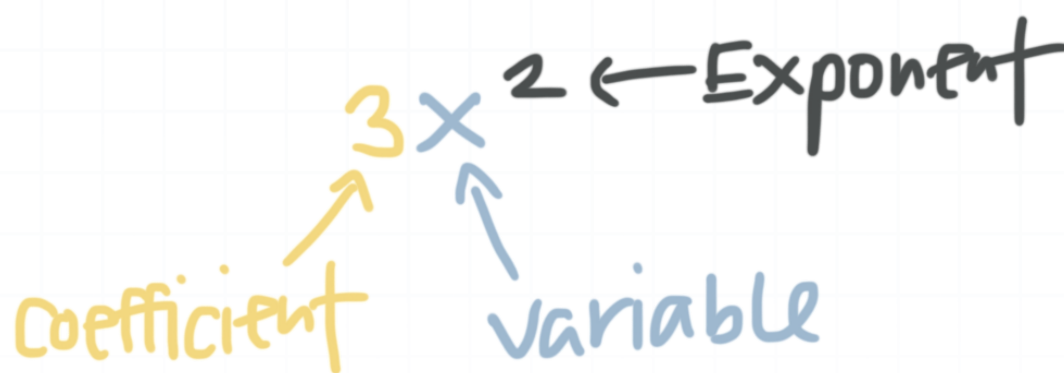


Adding and subtracting like terms

Adding and subtracting like terms is also known as combining like terms. For purposes of addition and subtraction, like terms are terms that have the same base (the same variable) and the same exponent.

We combine them by adding or subtracting the coefficients (the numbers in front of the letter). The exponents will stay the same after adding or subtracting like terms. Remember that x is equal to $1x^1$.



Example

Simplify the expression.

$$2x + x - 3x + 5x$$

All of these terms have the same variable (x) with the same exponent (1) so we'll add all of the coefficients together.

$$(2 + 1 - 3 + 5)x$$

$$(3 - 3 + 5)x$$



$$5x$$

Let's try another example of adding and subtracting like terms.

Example

Simplify the expression.

$$x - 3x^2 + 4x + 7x^2$$

Start by grouping terms that have the same variable and same exponent.

$$x + 4x - 3x^2 + 7x^2$$

Combine the x terms.

$$(1 + 4)x - 3x^2 + 7x^2$$

$$5x - 3x^2 + 7x^2$$

Combine the x^2 terms.

$$5x + (-3 + 7)x^2$$

$$5x + 4x^2$$

