

Combining Like Terms

Did You Know?

We call "terms" "like terms" when they have the same variable and exponent.

For Example:

3x and 4x are like terms because they both contain the same variable "x"

3x and 4y are NOT like terms because they contain different variables "x" and "y"

You cannot add/subtract terms that are not alike!

Like terms are easily combined by combining the coefficients (the number in front of the variable)

$$\underline{10y + 4y} =$$

$$(10 + 4)y = \mathbf{14y}$$

$$\underline{3ab - 9ab} =$$

$$(3 - 9)(ab) = \mathbf{-6ab}$$

Remember: to combine like terms the variable AND exponent need to be the SAME

$$\underline{10y^2 + 4y - 3y^2 + y - 4} =$$

$$(10 - 3)y^2 + (4+1)y - 4$$

$$7y^2 + 5y - 4$$

$$\mathbf{7y^2 + 5y - 4}$$

Extra Tip:
Always arrange your exponents in order from greatest to least

Combining Like Terms

Different Exponents

Did You Know?

The only way to combine like terms with different exponents is with Multiplication and Division

For Example:

3x and 4x are like terms because they both contain the same variable "x"

3x and 4y are NOT like terms because they contain different variables "x" and "y"

You cannot multiply/divide terms that are not alike!

Like terms are easily combined by combining the coefficients (the number in front of the variable)

$$\underline{10y} * \underline{4y} =$$

$$(10 * 4)(y * y) = 40y^2$$

$$\underline{y^2} * \underline{4y} =$$

$$(1 * 4)(y * y * y) = 4y^3$$

Remember: We learned about exponents in Lesson 8, 2×2 is the same as 2^2 , this works the same way with variables: $X * X = X^2$