

Distributive Property and Simplifying Expressions

Distributive Property

$$a(b + c) = \underline{\hspace{2cm}}$$

ex: Simplify.

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

$$(x - 2) \cdot 4 =$$

$$3(x - 3 + 2y) =$$

Combining Like Terms

The parts of an algebraic expression separated by addition are called .

ex: $7x - 9y + z - 3$

The numerical part of a term is called the .

ex:

Term	Coefficient
$-9y$	
z	
-3	
$\frac{1}{2}x$	
$\frac{x}{5}$	
$\frac{3t}{7}$	

The parts of a term that are multiplied are called .

ex: The factors of $-9y$ are:

ex: The factors of $3(x + 1)y$ are:

Terms with the same variable factors are called .

ex: $3x$ and $7x$ are like terms.

$7y^2$ and y^2 are like terms.

$2x$ and $4x^2$ are not like terms.

We can combine like terms to simplify.

ex: $3x + 7x =$

$7y^2 - y^2 =$

ex: Simplify.

$4(7x - 3) - 10x$

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

$8x + 2[5 - (x - 3)]$

Practice

1. Fill out the following table.

Term	Coefficient
$2uv$	
$-x$	
$\frac{x}{3}$	
$-\frac{2y}{5}$	

2. Identify each group of terms as like or unlike.

a) $3z^4, 2z^3$ b) $5x, -7x$ c) $14, -22, 3$

3. Simplify.

a) $5x - 8x$ b) $-2(5x^2 - 3)$ c) $4x + 3(2x - 5)$ d) $7 - 4[3 - (5y - 1)]$

e) $-\frac{2}{3}x^2 + \frac{3}{5}x + \frac{4}{3}x^2 - \frac{1}{2}x$