

11-15-17

Aim: SWBAT simplify expressions using the distributive property (including negatives).

HW: Quiz Friday (parts of an expression and distributive property)

Do Now: List the terms, like terms, coefficients and constants of the following expression.

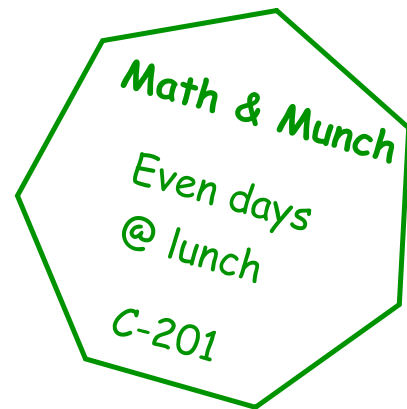
$$-2x + y + 3x - 6y - 7$$

terms:

like terms:

coefficient(s):

constant(s):



Do Now: List the terms, like terms, coefficients and constants of the following expression.

$$\boxed{-2x} + \boxed{y} + \boxed{3x} - \boxed{6y} - 7$$

terms:  $-2x, y, 3x, -6y, -7$

like terms:  $-2x$  and  $3x$ ;  $y$  and  $-6y$

coefficient(s):  $-2, 1, 3, -6$

constant(s):  $-7$

Simplify.

$$\textcircled{1} \quad 2(x - 8) = 2x - 16$$

$$\textcircled{2} \quad 2(y + 9) = 2y + 18$$

$$\textcircled{3} \quad 2(3z + 11) = 6z + 22$$

$$\textcircled{4} \quad 2(4y + 9z) = 8y + 18z$$

$$\textcircled{5} \quad 5(-2x + 3) = -10x + 15$$

$$\textcircled{6} \quad 5(-2x - 3) = -10x - 15$$

$$\textcircled{7} \quad 5(2x - 3) = 10x - 15$$

$$\textcircled{8} \quad 5(3x + 2y + z) = 15x + 10y + 5z$$

$$\textcircled{9} \quad 10(-2x + 3y - 4z) = -20x + 30y - 40z$$

$$\textcircled{10} \quad 10(-2x - 3y + 4z) = -20x - 30y + 40z$$

$$\textcircled{11} \quad 10(-2x + 3y + 4z) = -20x + 30y + 40z$$

### **Simplify**


1. Eliminate parentheses by distributing
2. Combine like terms

**Make sure your final answer meets the following requirements**

- No double signs
- Alphabetical Order
- Constant goes last

When distributing a negative, all the signs on the inside of the parentheses become opposite!!!!

Use the distributive property to simplify.

- 
1. Remove parentheses.
  2. Combine like terms.

Distributing with a negative makes all the signs on the inside opposite.  
No double signs!!!!

$$-3(x + 10) = -3x - 30$$


$$-12(-y + z) = 12y - 12z$$

$$-5(x - y + 3) = -5x + 5y - 15$$

$$-10(x - 5) = -10x + 50$$

$$-x(-a - b) = ax + bx$$

Use the distributive property to simplify.

- 
1. Remove parentheses.
  2. Combine like terms.

Distributing with a negative makes all the signs on the inside opposite.  
No double signs!!!!

$$-3(2x + 10) = -6x - 30$$

$$-12(-2y + 2z) = 24y - 24z$$

$$-5(2x - 2y + 3) = -10x + 10y - 15$$

$$-10(2x - 5) = -20x + 50$$

$$-x(-a - 2b) = ax + 2bx$$

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

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

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

$$-(-x-3) = x-3$$

$$4(3z + 18 + 2x) = 12z + 72 + 8x$$

$$-4(3z + 18 + 2x) = -12z - 72 - 8x$$



List the terms, like terms, coefficients, and constants.

$$3x - x + 2 - 9y + 7y + 5z$$

terms:  $3x, -x, 2, -9y, 7y, 5z$

like terms:  $3x$  and  $-x$ ;  $-9y$  and  $7y$

coefficient(s):  $3, -1, -9, 7, 5$

constant(s):  $2$

$$y + 9z - 7 - y$$

terms:  $y, 9z, -7, -y$

like terms:  $y$  and  $-y$

coefficient(s):  $1, 9, -1$

constant(s):  $-7$

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

$$3x - 6 + 7y - 5$$

terms:  $3x, -6, 7y, -5$

like terms:  $-6$  and  $-5$

coefficient(s):  $3, 7$

constant(s):  $-6$  and  $-5$