

# Distributive Property

## Day 1

### Distributive Property

$$a(b + c) = ab + ac$$

$$a(b - c) = ab - ac$$

\*\*Multiply each term in parenthesis by the term on the outside\*\*

Use the Distributive Property to Simplify

$$3(2x + 1)$$

$$3(2x + 1) = 3(2x) + 3(1)$$

Simplifies to 6x+3

Simplify by using the distributive property

$$1. \quad 8(9n - 2)$$

$$72n - 16$$

$$2. \quad 7(p - 3)$$

$$7p - 21$$

$$3. \quad 5(x + 10)$$

$$5x + 50$$

$$4. \quad 6(t + 4)$$

$$6t + 24$$

### Distributive Property with Integers

Remember our multiplying integer rules...

-multiplying two integers with same signs, our answer will always be positive

-multiplying two integers with different signs, our answer will always be negative

Example 1

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

$$(-3)(2x) \quad (-3)(-5)$$

$$-6x + 15$$

Example 2

$$2(-3a - 4)$$

$$-6a - 8$$

Example 3

$$6(-2y + 1)$$

$$(6)(-2y) \quad (6)(1)$$

$$-12y + 6$$

Example 4

$$-5(4 - 8n)$$

$$-20 + 40n$$

What happens when there isn't a coefficient in front of the parenthesis and only a negative?

$$\begin{array}{l}
 -2x - 3 \\
 -1(2x - 3) \\
 \quad -2x + 3
 \end{array}$$

Example 1

$$\begin{array}{l}
 -(8 + 4v) \\
 -8 - 4v
 \end{array}$$

Example 2

$$\begin{array}{l}
 -(-x + 6) \\
 x - 6
 \end{array}$$

Try on your own!

$$\begin{array}{l}
 1. -2(x - 3) \\
 (-2)(x) \quad (-2)(-3) \\
 -2x + 6 \\
 3. -(4x - 6) \\
 -4x + 6
 \end{array}$$

$$\begin{array}{l}
 2. 3(-7y - 8) \\
 \underline{-21y - 24}
 \end{array}$$

$$\begin{array}{l}
 4. -7(1 + 2x) \\
 -7 - 14x
 \end{array}$$

$$\begin{array}{l}
 5. -5(-b + 2) \\
 5b - 10
 \end{array}$$

$$\begin{array}{l}
 6. -(-2x + 4) \\
 2x - 4
 \end{array}$$

## Warm up 9/15:

a) Data Collection:  
Mrs. McGee's b-day is Sunday. On a post-it, write how young you think she'll be.

Mean: 43

Median: 46

Mode: 48

Range: 40