

Simplifying Algebraic Expressions with the Distributive Property

Let's Review...

The distributive property states that multiplying a sum/difference by a number gives the same result as multiplying each number and then adding/subtracting the products together.

$$\text{Ex- } 7(8 + 9) = 7(8) + 7(9)$$

Steps:

1. Simplify inside parentheses first if possible

2. Simplify the terms (check for multiplication and division)

3. Distribute the number on the outside to ALL terms on the inside

4. Combine like terms

EX ①

simplify parentheses

$$4(3x \cdot 2 + 3) + 7x - 8$$
$$4(6x + 3) + 7x - 8$$

Distribute

$$24x + 12 + 7x - 8$$

combine like terms

$$31x + 4$$

EX ②

$$\frac{20x}{2} + 5(3x+2y-10)$$

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

$$10x + 15x + 10y - 50$$

$$25x + 10y - 50$$