The Distributive Property  

**DISTRIBUTIVE PROPERTY**

For any numbers $a$, $b$, and $c$, the product of $a$ and $(b + c)$ is:

For any numbers $a$, $b$, and $c$, the product of $a$ and $(b - c)$ is:

**Sample Problem 1**: Rewrite using the distributive property, then evaluate.

a. $8(10 + 4)$

b. $(5 + 7)12$

c. $5(100 - 72)$

d. $(2 + \frac{1}{5})35$

e. $(10 + 7)5$

**TERM** is a number, a variable or a product or quotient of numbers and variables.

**LIKE TERMS** are terms that contain the same variables, with corresponding variables having the same power.

**SIMPLIFYING EXPRESSIONS**:

Distributive property is used to combine like terms by adding their coefficients. A simplified expression must not have grouping symbols and fractions are reduced to its lowest term.

**Sample Problem 2**: Simplify.

a. $18x + 3x$

b. $5x^2 + 2 - x^2$

c. $3 - 2(4 + x)$

d. $-3(2x^2 + 4x - 1) + 5x$

e. $5(x - 7y) + 8(3x + 2y)$

**Sample Problem 3**: Manny runs a restaurant. One day, a total of 50 steaks are sold. Each steak cost $14.95 and received an average tip of $1 for each. Write the expression that determines the total amount he earned. How much did Manny earned?