DISTRIBUTIVE PROPERTY

The distributive property is used when a quantity in parentheses is multiplied by another quantity (may or may not be in parentheses). Multiply the number on the outside of the parentheses by everything on the inside. Keep in mind, if there is a negative sign in front (on the *left* side) of the parentheses, it is an implied -1. If two sets of parentheses are touching each other, there is an implied multiplication sign.

Examples:

$(-2)(2x+3) = -4x + -6 = -4x - 6$ (Implied multiplication by -2)

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

$(4+3x)(-2) = -8-6x$ (Implied multiplication by -2)

$(4+3x)-2x = 4+3x-2x = 4+x$ (The negative sign is on the right, so it is a subtraction sign.)

COMBINING LIKE TERMS

A term is a quantity that includes at least one variable and a coefficient (a number in front of a variable). For example, $3+2x-5y$ contains three different terms. Remember, 2 x means two times x, or x + x (x added to itself 2 times). This is like $3 \times 4 = 4+4+4$ (4 added to itself 3 times).

2 x and 3 are not like terms because they have different letter combinations. $2x+3$ does NOT equal $5x$ because you are adding a known quantity (3) to two unknown quantities. Therefore, $2x+3$ is as far as you can go with simplifying.

Example: $-4+2n-5n+3 = -4+3+2n-5n = -1-3n$