# 1-4 Notes: The Distributive Property

**Evaluate Expressions** The Distributive Property can be used to help evaluate expressions.

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| **Distributive Property** | For any numbers $a$, $b$, and $c$, $a(b + c) = ab + ac$ and $(b + c)a = ba + ca$ and $a(b – c) = ab – ac$ and $(b – c)a = ba – ca$. |

**Example 1: Use the Distributive Property to rewrite 6(8 + 10). Then evaluate.**

**Example 2: Use the Distributive Property to rewrite $-2(3x^2 + 5x + 1)$. Then simplify.**

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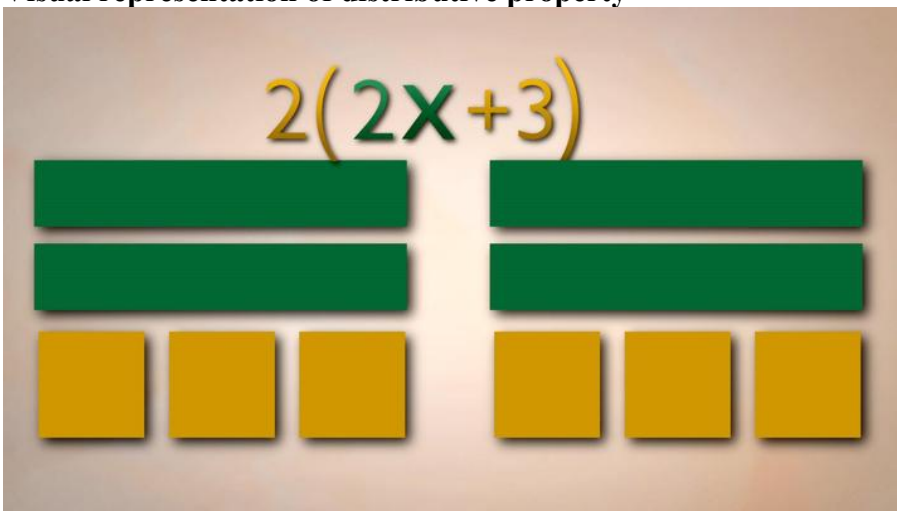
**Simplify Expressions** A **term** is a number, a variable, or a product or quotient of numbers and variables. **Like terms** are terms that contain the same variables, with corresponding variables having the same powers. The Distributive Property and properties of equalities can be used to simplify expressions. An expression is in **simplest form** if it is replaced by an **equivalent** expression with no like terms or parentheses.

**Example : Simplify $4(a^2 + 3ab) - ab$.**

**Visual representation of distributive property**




As you can clearly see in the picture, the green rectangles represent an x term and the little yellow squares represent a positive 1.

2(2x + 3) is equivalent to 4x + 6