Evaluating Algebraic Expressions

Level 1 - Evaluate simple algebraic expressions
Level 2 - Evaluate more complex algebraic expressions

An ***algebraic expression*** is like a recipe: it tells you how to combine numbers and variables. To **evaluate** an expression means to **find its value** when the variable is replaced with a given number.

Steps:

1. Substitute the number in place of the variable.
2. Follow the order of operations (PEMDAS: Parentheses, Exponents, Multiply/Divide, Add/Subtract).

Evaluate the following expressions when $x = 4$, $y = 6$ and $a = -1$.		
Example #1 $\frac{x+8}{y}$	**Example #2** $2x + y$	**Example #3** $2(a + x) - y$
$= \frac{(4)+8}{6}$ $= \frac{12}{6}$ 2	$= 2(4) + 6$ $= 8 + 6$ 14	$= 2(-1 + 4) - 6$ $= 2(3) - 6$ 0

Remember:

- Always substitute carefully. Put parentheses around the number you plug in.
- Use PEMDAS to keep operations in the right order.
- You may have seen other acronyms that mean the same thing
  - BEDMAS, BIDMAS, BODMAS, etc...
- Double-check with a calculator if the arithmetic looks messy.