Section 1.3: Algebraic Expressions

Algebraic expressions contain **variables** such as x and n (which can represent ANY number). Note: the words **"a number"** in the meanings below is replaced by the variable.

Examples and their meanings:

x + 5 : Five more than a number

OR A number plus five

n - 4 : Four less than a number

OR A number subtract four

4 - n : Four subtract a number

(This example is often confused with the one above - BE CAREFUL)

5n : Five times a number

Note: In algebra we do not use the "times" symbol “x” as it would be mistaken as a variable. We simply write the number in front of the variable!

6n + 2 : Six times a number, then add two

OR two more than six times a number

10/n : Ten divided by a number

Note: the slash symbol can be used to represent division. So can a fraction like form!

In the algebraic expression: 6t - 4

6 is the ***numerical coefficient*** (this will always be the number next to the variable)

t is the ***variable*** (the letter in the expression)

4 is the ***constant term*** (the number being added or subtracted in the expression)

Section 1.3: Algebraic Expressions continued….

You can use an algebraic expression to solve similar problems more easily.

Example: Suppose you earn $9 per hour

If you worked 3 hours, you earn: 3 x $9 = $27

If you worked "t" hours (an unknown amount of time)

you earn t x $9 = 9t

(Remember: Multiplication in algebra is written without a "times" symbol and the numerical coefficient is always written in front of the variable!)

We evaluate an algebraic expression by substituting in a value for the variable.

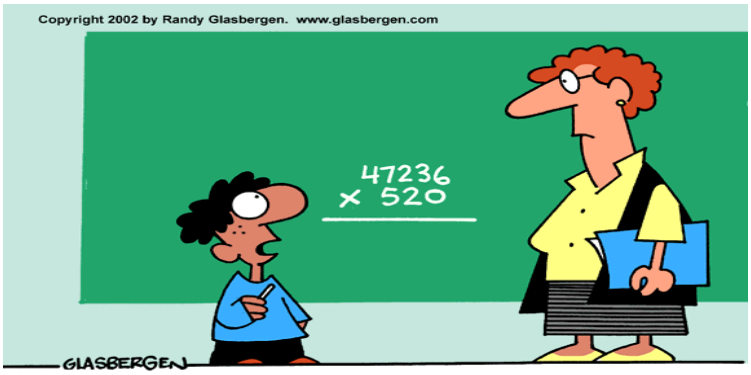
Example: Evaluate 3f -2 for f = 5.

Solution: We substitute the 5 for the letter f in the expression as follows:

(3)(5) - 2 *(Note: The order of operations tells us we must multiply before subtracting)*

= 15 - 2

=13



"AREN'T THERE ENOUGH PROBLEMS IN THE WORLD ALREADY?"