**Notes on Variables, Writing, and Evaluating Algebraic Expressions**

Variable: A variable is a symbol, usually a letter, that stands for an unknown number.

Expression: An expression is something that contains numbers, operations, and/or letters, but does NOT contain an equal sign.

Numerical Expression: An expression that contains only numbers and operations, like 5 + 4 – 3, or 42, or 25 – 3.

Algebraic Expression: An algebraic expression contains at least one letter and operation. It can also contain numbers, like 3x + 2, 5y, t, or (6x + 4)2.

Translating Algebraic Expressions: Simply write the words as mathematical symbols.

For example, “a number plus seven” would be written as **x + 7.** Any letter of the alphabet can be used as a variable, but a variable must be used since the first number is unknown. Another example would be “Three times an unknown number minus 10” would be written as **3x – 10**. When a number and a letter are side by side with no operation between them, it is understood to be MULTIPLICATION.

Evaluating Algebraic Expressions: Plug in the values given for the letters in the expressions, and then use the Order of Operations (PEMDAS) to simplify the expressions.

For Example, evaluate 3x + 4y if x = 2 and y = 5.

Take the number 2 and put it where the x is, and put the 5 where the y is. So it becomes 3⦁2 + 4⦁5. So it becomes 6 + 20, which is 26 when added together. The answer is 26.