

## 1.02 Algebraic Expression

### Vocabulary

Variable: A letter that represents an unknown number.

(ex.  $a + 2 \rightarrow a + 2$ )

Term: Expression are made up of terms separated by plus or minus signs.

(ex.  $2x + 5 - 3x \rightarrow 2x + 5 - 3x$ )

Factors: Numbers that multiply together to produce a product.

(ex.  $3x \rightarrow 3x$ )

Coefficient: When multiplying a number and a variable, the number listed is the coefficient. *\*\*Remember, the coefficient of  $x$  is 1.\*\**

(ex.  $x$  by itself stands for  $1x$  ;  $5x \rightarrow 5x$ )

Constant: Numbers that stand alone.

(ex.  $3x + 5 \rightarrow 3x + 5$ )

Exponent: Shorthand that tells how many times the base is used as a factor, or how many times the base is multiplied by itself.

(ex.  $2 \times 2 \times 2 \rightarrow 2^3$ )

Combining Like Terms: is the process of adding or subtracting like terms to simplify an expression.

## 1.02 Algebraic Expressions

**\*\*Watch for exponents and negatives!\*\***

$$2x + 5y + 2z + 2y + z + 3x$$

$$5x + 7y + 3z$$

$$4x^2 + 4x + 3x^2 + 8x + 5y^2 + 10$$

$$7x^2 + 12x + 5y^2 + 10$$

$$6x - 7x + 8y - 3y^2 + (-2y)$$

$$-x + 6y - 3y^2$$

Simplify the expressions.

1.  $4x^2 + 5y + 3x + 2x^2 - 2y$

2.  $4x^3 + x^2 - 2x^3 + 5$

3.  $10x^5 + 3(2x^5 - 4b^2)$