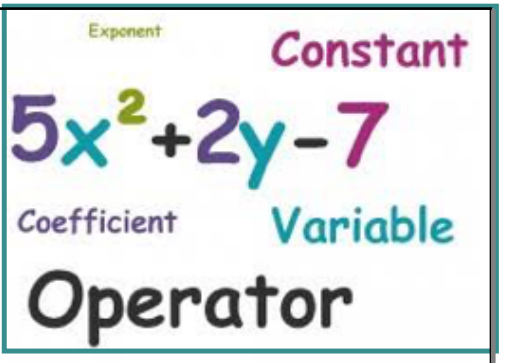
Wednesday, February 5, 2020

Review of Polynomials and Solving Equations



1) Vocabulary

algebraic expression - a mathematical statement that contains both letters and numbers

variable -

coefficient -

term -

like terms -

polynomial -

monomial -

binomial -

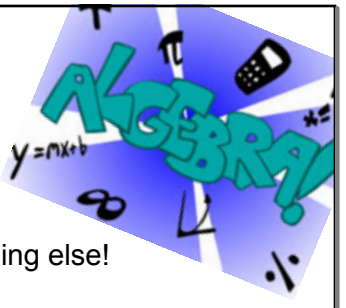
trinomial -

distributive property - the process that you use to multiply a monomial by a polynomial

$a(b + c) = ab + ac$

To simplify an algebraic expression, remember that you need to eliminate brackets and collect like terms!

2) Algebraic Substitution



Remember that substitution is just the process of replacing a variable with another number or expression. When you are doing substitution:

- ALWAYS use brackets;
- Replace the letter indicated. Do NOT change anything else!

ex/ Evaluate $3x - 4y$ when $x = -\frac{1}{3}$ and $y = -2$.

Practice Problems

Expand and simplify.

1) $xy - 2x + 4xy - 3y + 6x - 6y$

2) $3x(x - 4) - (x - 5) + 2(x^2 - 4x + 1)$

3) Solving Equations

> An equation is just a mathematical expression with an equals sign. The solution(s), or root(s), of an equation are the values that satisfy the equation, or the values that make the statement true (left side=right side).

Remember that the goal when you are "solving" an equation is to isolate the variable. Be sure to apply BEDMAS backwards to do this!

Example: How do we approach a problem like this??

Solve.

$$\frac{1}{2}(x - 6) + \frac{2}{3}(x + 5) = \frac{4}{3}$$

Practice Problems:

Solve.

1) $12x + 8 = 8x + 4$

2) $y + 6(y - 3) = 6y - 2$

3) $\frac{1}{4}x - 2 = \frac{1}{2}(x + 4)$

How can you "check" to be sure that your answers are correct? Check your solutions for the practice problems.

What does it mean if we say that an ordered pair "satisfies" an equation? Show that the point (2, -1) satisfies the equation $2x - 3y = 7$

If you have the equation of a line and one coordinate of a point on the line, how can you find the other coordinate?

ex/ The point $(-2, y)$ is on the line $4x - y = 10$. Find y.