

### Things to Study for Test #3

Homework from Ch. 6.1 through 7.4 (§10.1) & 8.2 **and** Classwork from Night 9 thru Night 12

\*\*Calculators are OK. Bring a calculator. Cell phone or other electronic NOT OK for calculator.

### Detailed Topics Covered

#### Chapter 6

- Solve systems of equation by the following 3 methods
  - Graphing, Substitution & Elimination
  - Recognizing systems with no solution (parallel lines) & infinite solutions (the same line)
- Solving linear inequalities in 2 variables
  - Graphs, Boundary Lines and Shading using Check Points
- Solving systems of linear inequalities in 2 variables
  - Graph boundary lines and highlight the solution of the system
- Setup of systems of equations from word problems
  - Geometry, Total Value & Other Linear Setups, Simple Interest, Chemistry & Grocery Store problems
  - Most problems will require set-up and more than likely only one will require a solution

#### Chapter 7 & 10.1

- What isn't a polynomial and what is
  - No exponents that are no positive integers; No variables in the denominator
- Naming conventions of a polynomial
  - Special: Monomial, binomial & trinomial
  - Polynomial in one vs. two variables
  - Degrees of terms & polynomials
    - ✓ Names associated with degrees: 1<sup>st</sup> – Linear, 2<sup>nd</sup> – Quadratic, 3<sup>rd</sup> – Cubic
- Exponent Rules
  - Definition:  $a^r = a \cdot a \cdot a \dots \cdot a$  (r factors of a)
  - Negative Exponent:  $a^{-r} = 1/a^r$
  - Zero Exponent:  $a^0 = 1$
  - Product Rule:  $a^r a^s = a^{r+s}$
  - Quotient Rule:  $a^r/a^s = a^{r-s}$
  - Power Rules: 1.  $(a^r)^s = a^{r \cdot s}$       2.  $(ab)^r = a^r b^r$       3.  $(a/b)^r = a^r/b^r$
- Adding & Subtracting Polynomials
  - Horizontal & Vertical Methods
  - Subtraction: Distribute Subtraction & Then Add (including using function notation)
- Multiplying Polynomials
  - Special Forms:  $(a + b)^2 = a^2 + 2ab + b^2$        $(a - b)^2 = a^2 - 2ab + b^2$ ,  
 $(a + b)(a - b) = a^2 - b^2$
  - FOIL Method for binomials
  - Distributive Property or Long Multiplication for Poly x Poly
- Dividing Polynomials
  - Monomials Apply Quotient Rule
  - Polynomial by Monomial Create sum of terms & apply quotient rule (EC potential)

Chapter 8: **Only** Factoring a GCF either binomial or monomial