Algebra 2 Honors **Name: _____**

Unit 3 Study Guide **Period_____**

Topics Checklist: Equations, Inequalities, Functions	
Activity 14: Introduction to Polynomials Practice (p.239-240) #1cd, 3-5, 8-10, 11-13, 16-18 Notes: pg 228 #3, 6	□ Write a third-degree equation that represents a real-world situation. □ Identify equations that are/are not polynomials. □ Sketch the graphs of cubic functions. □ Identify the end behavior of polynomial functions. □ Recognize even and odd functions given an equation or graph. □ Distinguish between even and odd functions and even-degree and odd-degree functions.
Activity 15: Polynomial Operations Practice (p.253-254) #3, 8-18, 21, 23, 25	□ Use a real-world scenario to introduce polynomial addition and subtraction. □ Add, subtract, and multiply polynomials. □ Determine the quotient of two polynomials using long and synthetic division.
Activity 16: Binomial Theorem Practice (p.263-264) #8-19	□ Create Pascal's Triangle □ Know the Binomial Theorem. □ Apply the Binomial Theorem to identify the coefficients or terms of any binomial expansion. □ Use summation notation to find binomial expansions.
Activity 17: Factors of Polynomials Practice (p.275-276) #1-6, 10, 12ab, 13a Notes: p.273 Try These C (c.)	□ Determine the linear factors of polynomial functions using algebraic methods. □ Determine the linear or quadratic factors of polynomials by factoring the sum or difference of two cubes and factoring by grouping. □ Know and apply the Fundamental Theorem of Algebra. □ Write polynomial functions, given their degree and roots.
Activity 18: Graphs of Polynomials Practice (p.289-290) #1-11, 13, 14, 17	□ Graph polynomial functions ~~by hand~~ or using technology, identifying zeros when suitable factorizations are available, and showing end behavior. □ Recognize even and odd functions from their algebraic expressions. □ Knowing and applying the Rational Root Theorem