

## Algebra 2 Semester Exam Study Guide

The following topics will be included on our semester exam. The exam covers Chapters 6 through 11. There will be 70 questions (62 multiple choice and 8 written). You will be allowed to use one sheet of notebook paper as a reference and a calculator.

- Find the slope of a line given two points
- Write the point-slope form of an equation of a line given two points
- Write the standard form of a line given the slope and a point
- Write the standard form of a linear equation given two points
- Find the x- and y- intercepts of a linear equation
- Write the slope-intercept form of a linear equation given the slope and a point
- Write the slope-intercept form of a linear equation given the slope and y-intercept
- Determine if lines are parallel, perpendicular, or neither
- Find the midpoint of a segment given the endpoints
- Graph a linear equation given in slope-intercept form
- Solve linear inequalities using addition and subtraction
- Solve linear inequalities using multiplication and division
- Solve multi-step inequalities
- Graph the solution to inequalities on a number line
- Solve inequalities involving absolute value
- Solve systems of two equations using substitution and elimination
- Multiply monomials
- Multiply a monomial and a polynomial using the distributive property
- Multiply polynomials using FOIL
- Use scientific notation
- Find the degree of a polynomial
- Write the terms of a polynomial in ascending and descending order
- Add and subtract polynomials
- Multiply special products (difference of squares and squaring a binomial)
- Find the prime factorization of a monomial
- Find the GCF of two monomials
- Factor polynomials using GCF, difference of squares, perfect square trinomials, and grouping (the long way!)
- Solve equations using factoring
- Solve quadratic equations using the Quadratic Formula

Please discuss these topics with your parents. Remind them that this semester exam will account for 15% of your semester grade. Your semester grade determines your grade point and also whether or not you receive credit. In addition to problems that I may assign for review, it is important that you spend time reviewing these topics on your own using your textbook, chapter packets, and notebook as references.

Initials: \_\_\_\_\_

For more information go to <http://www.iammea.org/amurphy>