



ALGEBRA 2

COMPETENCY EXAM

STUDY GUIDE

This assessment will be used to guarantee that the material taught outside of Piscataway Township Schools has prepared you for the next course you will be taking. Please give this assessment your best effort.

You may use a scientific calculator on the test, but graphing calculators are not permitted. You will be given the PARCC HS Mathematics reference sheet for use on the exam. The test is set up in three sections: short response, graphing, and extended response. Please use the following list of topics to review for the exam.

- Evaluating expressions by substituting
- Finding the equation of lines
- Finding the slope of a line
- Solving system of equations with two or three variables
- Using the quadratic formula
- Simplifying expressions
- Factoring and solving quadratic equations
- Simplifying expressions using the properties of exponents
- Identifying the vertex and y-intercept of a parabola
- Writing a polynomial function in standard form given the zeroes
- Dividing polynomials
- Substituting using the remainder theorem.
- Rationalizing the denominator of a radical expression
- Solving equations and checking for extraneous roots
- Finding the inverse of various functions
- Solving absolute value equations
- Evaluating logarithms
- Determining the domain and range of functions
- Determining where a function is undefined
- Adding/subtracting/multiplying rational expressions
- Graphing linear inequalities
- Graphing step and piecewise functions
- Using compound interest formulas
- Using quadratic functions to model real-life situations

USEFUL ALGEBRA 2 WEB SITES

- <http://www.coolmath.com/algebra/index.html>
- <http://www.purplemath.com/modules/index.htm>
- <http://www.yourteacher.com/algebra-2-tutoring.php>