

Topics for the Honors Algebra 2 Placement Test for students who have taken a full year of Algebra 1 and Geometry.

Algebra 1:

- Write and graph linear equations and inequalities, including point-slope form of a line
- Find the slope or write the equation of a line from two points or a graph
- Solve multi-step linear equations and inequalities of all types, including those with fractions and decimals
- Solve systems of linear equations by graphing, substitution, and elimination
- Solve systems of linear inequalities
- Factor out the greatest common factor of a polynomial
- Use properties of exponents to simplify expressions with exponents
- Multiply polynomials to get general form
- Use function notation to evaluate a function from an equation or graph
- Be able to write and use exponential equation that model data
- Solve applications of linear equations, linear inequalities, and systems of linear equations
- Solve problems and applications involving ratios, percentages, and decimals

Geometry:

- Apply the Pythagorean Theorem (including simplifying radicals)
- Use the midpoint and distance formulas
- Find and apply perimeter and area in the coordinate plane
- Use the properties of parallel and perpendicular lines to solve problems and complete proofs
- Use the properties of congruent and similar triangles to solve problems and complete proofs
- Use right triangle trigonometry to solve problems and applications
- Apply the properties of quadrilaterals and other polygons
- Find surface area and volume of polyhedrons, cones, spheres and cylinders
- Solve for missing values within complex geometric figures
- Classify geometric figures
- Apply circle properties (chords, tangent lines, arc length, etc.)

Khan Academy is a great resource for review. I would also recommend www.tenmark.com. It's a free online math program where you enter the upcoming class, there is a diagnostic test, and then a review curriculum is built accordingly. I also like interactmath.com. On that site you select a textbook and then you can review by chapter/topic.