

Honors Algebra II Summer Packet

This summer packet is for students enrolled in Honors Algebra II (518). The assignment should be completed by the first Friday of school. An assessment on the material will be within the first two weeks of school. The objectives in this packet are Algebra I objectives and trigonometry objectives, and all of the objectives are NON – CALCULATOR objectives. *The score on this assessment is a strong indicator of success in the class.*

This summer packet will also introduce you to the online Algebra 2 & Trigonometry Textbook for the Honors Algebra II course. Use the textbook sections to review any topics for problems with which you struggle to complete or need review. The textbook has an online version as well as a PDF version. The link to the answers to ODD problems is also below. You can access each with the links below:

[OpenStax Algebra 2 & Trigonometry online version](#) - Objectives, Sample Problems and links to videos for each section in interactive format. Find video resources at the end of each section where available.

[OpenStax Algebra 2 & Trigonometry PDF version](#) – Objectives, Samples Problems and Sections Exercises in pdf form.

[ODD Answers](#) – Answers to the odd problems in the Section Exercises, Chapter Review, and Chapter Practice Test in the PDF version.

The summer packet problems are chapter reviews of the following chapters of the textbook.

Chapter 1: Introduction to Prerequisites

Chapter 2: Equations and Inequalities

Chapter 7: Introduction to the Unit Circle

DIRECTIONS: Complete the assigned problems for the Chapters described. When completing the problems, you should be practicing good work habits: copy the problem, show all work (usually best in a vertical format), circle your final answer and check the answer using the ODD answers. If you choose to complete more practice, each section of the chapters has a problem set of exercises and you can practice as many problems as you think you need to be prepared for the assessment.

Chapter 1 Review Problems: #1-67 Odd EXCEPT # 33,55,57,59

Chapter 2 Review Problems: #1-15 Odd, 19-25, 40-45, 48-51, 61-67 odd (for 61-67 write the solution as an inequality or compound inequality)

Chapter 7 Review Problems: #1-43 Odd

OBJECTIVES:

Chapter 1:

- Classify a real number as a natural, whole, integer, rational, or irrational number.
- Perform calculations using order of operations.
- Use the following properties: commutative, associative, distributive, inverse, and identity.
- Evaluate algebraic expressions.
- Simplify algebraic expressions.
- Use the product rule of exponents.
- Use the quotient rule of exponents.
- Use the power rule of exponents.
- Use the zero-exponent rule of exponents.
- Use the negative rule of exponents.
- Find the power of a product and a quotient.
- Simplify exponential expressions.
- Evaluate square roots.
- Use the product rule to simplify square roots.
- Use the quotient rule to simplify square roots.
- Add and subtract square roots.
- Rationalize denominators.
- Add and subtract polynomials.
- Multiply polynomials.
- Perform operations with polynomials of several variables.
- Factor the greatest common factor of a polynomial.
- Factor a trinomial.
- Factor by grouping.
- Factor a perfect square trinomial.
- Factor a difference of squares.
- Simplify rational expressions.
- Multiply rational expressions.
- Divide rational expressions.
- Add and subtract rational expressions.

Chapter 2:

- Plot ordered pairs in a Cartesian coordinate system.
- Graph equations by plotting points.
- Graph equations with a graphing utility.
- Find x -intercepts and y -intercepts.
- Use the distance formula.
- Use the midpoint formula.
- Solve equations in one variable algebraically.
- Solve a rational equation.
- Find a linear equation.
- Given the equations of two lines, determine whether their graphs are parallel or perpendicular.
- Write the equation of a line parallel or perpendicular to a given line.
- Solve quadratic equations by factoring.
- Solve quadratic equations by the square root property.
- Solve quadratic equations by using the quadratic formula.

- Solve inequalities in one variable algebraically.
- Solve absolute value inequalities.

Chapter 7:

- Draw angles in standard position.
- Convert between degrees and radians.
- Find coterminal angles.
- Find the length of a circular arc.
- Use right triangles to evaluate trigonometric functions.
- Use right-triangle trigonometry to solve applied problems.
- Identify the domain and range of sine and cosine functions.
- Find reference angles.
- Use reference angles to evaluate trigonometric functions.

We will be using graphing calculators throughout the course. If you do not own a graphing calculator, it is recommended that you purchase your own calculator. We recommend purchasing a TI – 84 Plus calculator. DO NOT buy a TI-89 calculator because they are not allowed in class, on the SAT's or other standardized tests.

PLEASE NOTE: The decision to take an Honors class is a serious one. The work in this class will require the following:

- Exemplary work habits.
- Exemplary time management skills.
- A genuine desire to learn.
- Personal responsibility for attendance and work requirements.
- Independent review and study habits.
- Self – discipline and determination to succeed.