Trig/Precalculus (Honors, Academic)
Summer Assignment

The summer assignments for Trig/Precalculus will reinforce some necessary algebra and geometry skills.

Complete the review exercises for Chapter P of the textbook Precalculus, Graphical, Numerical, Algebraic, Eighth edition, by Demana, Waits, Foley, and Kennedy. Show your work on the pages of a spiral or marble notebook. The notebook will be collected on the first day of school. Be sure that your work is neat, well-organized and complete. You are encouraged to use any and all resource materials available to you such as your notebooks from previous math courses, math textbooks found in the public and college libraries, and the Internet. As you complete the review exercises, you are preparing for the first **test** of the first quarter.

Trig/Precalculus Summer Topics

These are the topics reviewed in the pre-chapter which you should know in order to do the review problems.

- The number system: integers, rational, irrational, complex numbers
- Properties of exponents: multiplying, dividing, raising to a power, x^0, negative exponents
- Absolute value
- Distance formula (based on the Pythagorean Theorem)
- Midpoint formula
- Standard form of the equation of a circle
- Inequalities
- Lines: slope, point-slope form, slope-intercept form, vertical line, horizontal line, general form, parallel and perpendicular lines, graphing lines
- How to find the point of intersection of two lines
- Quadratic equation including the general form and graphing
- Completing the square
- Quadratic formula
- Parabola: vertex, axis of symmetry, x and y intercepts
- Definition of the imaginary number i
- Powers of i
- Complex numbers: standard form, add, subtract, multiply, divide, conjugate
- Projectile motion: distance above the ground at any time t is given by $d = -16t^2 + v_0t + d_0$
    - d is the distance the object is above the starting point
    - t is the time the object is in the air
    - v_0 is the initial velocity with which the object is thrown
    - d_0 is the initial position (height) of the object