# Algebra II

Bayou Academy

Mrs. Laura Little, Instructor

- Find the sum, difference, product, and quotient of functions, noting any restrictions on the domain.
- Diagram the relationship among the subsets of the complex number system.
- Compute with rational and radical expressions and complex numbers, expressing in simplest form.
- Evaluate powers of the imaginary unit, i.
- Perform computations, including addition, scalar multiplication, multiplication, determinants, and inverses on matrices.
- Explain expansion by minors and find the determinant of a 3 x 3 matrix with that process.
- Solve applications and problems in mathematical settings involving arithmetic and geometric sequences and series.
- Explain and use the inverse relationship between exponential and logarithmic expressions.
- Use the properties of logarithms to simplify logarithmic expressions and to find their approximate values.
- Solve application problems involving exponential functions related to growth and decay.
- Solve compound and absolute value inequalities, graphing and writing solutions in interval notation.
- Solve systems of absolute value and quadratic equations using a variety of solution methods including graphing.
- Given constraints, find the maximum and minimum value(s) of a system of linear inequalities and explain your reasoning.
- Given the solution(s) to a quadratic equation, find a quadratic equation to fit the solution(s) and explain or justify the solution process.
- Use the discriminant to classify and predict the types of solutions of quadratic equations and justify the classification.
- Factor sums and differences of cubes and factor polynomials by grouping.
- Solve radical equations.
- Write equivalent forms of rational expressions using real and complex conjugates.
- Solve equations involving rational expressions and verify solutions.
- Explain the results of compositions of functions.
- Introduce and explain the Binomial Theorem and use it to expand binomial expressions raised to positive integral powers.
- Interpret the zeros and maximum or minimum value(s) of quadratic functions.
- Determine and justify whether the inverse of a relation or a function exists.
- Solve simple combinations.