Student Goals for Algebra 1 Masters:

Module 1 :

Student can Identify:
• Operations, decimals, fractions, expressions
• Reciprocals (multiplicative inverses) and negations (additive inverses)

Student can Explain:
• The order of operations, and the definitions of operations like subtraction and division

Student can Calculate:
• Expressions using the order of operations
• Fractions from a decimal and vice versa

Module 2 :

Student can Identify::
• Linear functions
• Equations and inequlaities

Student can Explain:
• slope, y-intercept of a function
• What the solutions to an equation and inequality mean
• The golden rule of algebra

Student can Calculate:
• The value of an unknown variable in an equation
• The range of values for an unknown in an inequality

Module 3 :

Student can identify
• a system of linear equations
• a problem that can be solved with a system of linear equations
• inconsistent systems, and equivalent systems

Student can explain
• how to solve a system of linear equations
• what the solution means

Student can calculate

- The solution for a system of linear equations using elimination
- The solution for a system of linear equations using substitution

Module 4 :

Student can Identify :

- Exponents, exponential functions, radicals, and properties related to each of these operators
- Logarithms and scientific notation
- Imaginary numbers

Student can Explain :

- Exponential growth
- How each of the properties of exponents work and why they are valid

Student can Calculate :

- Expressions containing exponents, including exponents in fractional form
- The simplified form of irrational radicals. For example, a student can convert $\sqrt{8} = 2\sqrt{2}$

Module 5 :

Student can Identify :

- Polynomials, binomials, and the terms that they contain: like terms, quadratic terms, linear terms, constants
- The factors of a polynomial
- The patterns in polynomials such as the difference of two squares, and the sum of cubes

Student can Explain :

- What the solutions of a quadratic mean and why we find them
- How to solve for a quadratic using all these methods – factoring, completing the square, graphing, and the quadratic formula
- How to graph a quadratic and what the various forms and coefficients tell us about the parabolic shape

Student can Calculate :

- The solutions to a quadratic equation
- The quotient of two polynomials

Module 6 :

Student can Identify:
- Different types of ratios and what they mean
- A scenario that requires using a ratio

Student can Explain :
- What we know from a given ratios
- What the similarities and differences are between the ratios

Student can Calculate :
- The value of an unknown as part of a proportion
- Simplify an algebraic fraction by using algebrai properties with algebraic expressions