College Algebra

The following learning targets represent the major concepts studied and assessed in this course.

Unit 0
Review

- I can multiply polynomials
- I can factor quadratic Equations
- I can simplify rational expressions
- I can simplify radicals
- I can simplify complex numbers

Unit 1
Equations and Inequalities

- I can solve linear equations
- I can solve quadratic equations
- I can solve equations with rational exponents
- I can solve by factoring simple polynomial type equations
- I can find the domain of a linear inequalities
- I can find the domain of non-linear inequalities
- I can solve a quadratic inequality
- I can find the domain of an absolute inequality

Unit 2
Graphs

- I can find the x & y intercepts
- I can find an equation's symmetry
- I can find the slope and graph a linear equation
- I can determine whether lines are parallel or perpendicular
- I can find the center and radius of a circle from a circle equation

Unit 3
Functions

- I can evaluate a function
- I can graph a piece-wise function
- I can recognize and identify different graphs of functions
- I can determine whether a function is even, odd, or neither
- I can identify increasing and decreasing intervals
- I can recognize and identify different graphs of functions
- I can transform a graph
- I can evaluate the composition of a function
- I can find the inverse of a function
- I can apply a variation function

Unit 4
Polynomial and Rational Functions

- I can graph a quadratic/polynomial function
- I can find the domain & range of a quadratic function
- I can write a quadratic equation in standard form
- I can equation of from its given x-intercepts and whether the graph opens/down
- I can identify leading term from polynomial graph
- I can identify increasing and decreasing intervals from a polynomial graph
- I can find an equation from a polynomial graph
- I can determine the right & left hand behavior of a graph from a polynomial equation
- I can perform both long and synthetic division
- I can list all possible rational zeros
- I can find all zeros and possible multiplicity of a polynomial function
- I can find vertical & horizontal asymptotes
- I can find a diagonal asymptote
- I can graph rational function

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Unit 5

Exponential and Logarithmic Functions

- I can graph an exponential function
- I can find the domain & range of an exponential function
- I can graph a logarithmic function
- I can find the domain & range of a logarithmic function
- I can evaluate a single logarithm expression
- I can go back and forth between exponential and logarithmic form
- I can go back and forth between a single logarithm as separate logarithm
- I can simplify a single logarithm expression
- I can solve exponential & logarithmic equations
- I can apply exponential & logarithmic equations

Unit 6

Systems of Linear & Non-linear Equations & Inequalities

- I can solve a system of linear equations using all four methods
- I can apply a system of linear equations
- I can graph a system of linear inequalities
- I can find a solution of a three variable system using matrices
- I can complete the square and graph an ellipse
- I can complete the square and graph a hyperbola
- I can find the solution to a non-linear system
- I can add/subtract & multiply matrices
- I can find the Inverse Matrix of a square matrix
- I can solve a system of linear equations using matrix equations
- I can solve a system of linear equations using Cramer's Rule