



Honors Algebra 2

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

Semester 1

Unit A

Functions

A1 Understand function notation and evaluate a function given function notation.

A2 Identify and interpret key characteristics of functions including domain/range, end behavior, increasing/decreasing intervals, turning points, minimums, maximums, and zeroes.

A3 Describe the effect of transformation algebraically and graphically, including translations, reflections, and dilations.

Unit B1

Quadratics part 1

B1.1 Graph quadratic equations and recognize characteristics of graphs.

B1.2 Solve quadratics using factoring and graphing techniques.

Unit B2

Quadratics part 2

B2.1 Solve quadratic equations using square roots, including imaginary solutions.

B2.2 Perform the operations of addition, subtraction, multiplication, and division of complex numbers.

B2.3 Solve quadratic equations by completing the squares.

B2.4 Solve quadratic equations by the quadratic formula.

B2.5 Solve systems of equations with non linear equations.

Unit C

Polynomial Functions

C1 Create a sketch of a polynomial function from an equation and create a polynomial equation from a graph.

C2 Identify key features of polynomials (zeros, multiplicity, end behavior, y-intercept, local minimums and maximums, turning points, transformations).

C3 Apply the fundamental theorem of algebra to be able to state the number of real and complex zeros.

Unit D

Polynomial Equations

D1 Perform the the operations of addition, subtraction and multiplication of polynomials.

D2 Factor polynomials including difference and sum of two cubes, grouping and quadratic form.

D3 Divide polynomials.

D4 Solve polynomial equations by factoring and/or applying the Remainder Theorem.

Semester 2

Unit E

Rational Exponents and Radical Functions

E1 Perform operations and simplify/rationalize a radical expression.

E2 Analyze graphs of radical functions to describe their transformations, domain, and range.

E3 Find and verify the inverse of a function.

E4 Solve a radical equation and identify extraneous solutions.

Unit F

Exponential and Logarithmic Functions and Equations

F1 Analyze the graphs of exponential and logarithmic functions to describe transformations, domain, range, and asymptotes.

F2 Use exponential and logarithmic equations to solve application problems.

F3 I can solve exponential and logarithmic equations.

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

Unit G

Rational Functions and Equations

G1 Graph rational functions and describe their transformations.

G2 Simplify rational expressions by performing operations (add, subtract, multiply, divide) or by using exponent rules.

G3 Solve rational equations and identify extraneous solutions.

Unit H

Statistics

H1 Determine whether a specified model is consistent with a given data set.

H2 Use data from a sample survey to estimate a population mean or proportion and recognize the meaning of the margin of error in these estimates.

H3 Given a data set that is known to be normally distributed, predict what percentage of the data will be above or below a given value that is a multiple of standard deviations above or below the mean.