

Second Year Algebra 2

MTHH040059

Credits: 0.5 units / 5 hours | NCAA Approved

Course Description

Second Year Algebra 2 is the second course in the Second Year Algebra series. It builds on the tools and principles learned in earlier algebra and geometry courses, including solving and graphing exponential and logarithmic functions, simplifying expressions, solving equations, graphing geometric shapes, working with arithmetic and geometric sequences, probabilities, and trigonometric equations. A graphing calculator is required for this course.

Prerequisites: First Year Algebra and Second Year Algebra 1

Required Assessments

6 Unit Evaluations, 2 Projects, 3 Progress Tests, 6 Teacher Connect Activities

Course Objectives

When you have completed the materials in this course, you should be able to:

1. Graph exponential and logarithmic functions.
2. Solve exponential and logarithmic functions.
3. Simplify rational expressions and solve rational equations.
4. Graph parabolas, circles, ellipses, and hyperbolas.
5. Generate arithmetic and geometric sequences.
6. Evaluate arithmetic and geometric series.
7. Use formulas and normal distributions to find the probability of an event.
8. Relate geometric measurement to trigonometry.
9. Write and graph functions that describe periodic data.
10. Solve trigonometric equations.

Course Outline

Unit 1: Exponential and Logarithmic Functions

Lesson 1: Exponential Functions

Lesson 2: Logarithmic Functions

Unit 2: Rational Functions

Lesson 3: Reciprocal and Rational Functions

Lesson 4: Rational Expressions and Equations

Unit 3: Quadratic Relations and Conic Sections

Lesson 5: Parabolas and Circles

Lesson 6: Ellipses and Hyperbolas

Unit 4: Sequence, Series, Probability, & Statistics

Lesson 7: Arithmetic and Geometric Sequences & Series

Lesson 8: Probability & Statistics

Unit 5: Periodic Functions and Trigonometry

Lesson 9: Periodic Functions

Lesson 10: Trigonometric Functions

Unit 7: Trigonometric Identities and Equations

Lesson 11: Trigonometric Identities and Ratios

Lesson 12: Trigonometric Laws

Required Textbook and Materials

(available through Follett virtual bookstore at <http://highschool.nebraska.bkstr.com>)

TI-83+ Graphing Calculator

NO Required Textbook