Integrated Math I Course Syllabus

Description:

Integrated Mathematics I is the foundation—the skills acquired in this course contain the basic knowledge needed for all future high school math courses. The material covered in this course is important, and everyone can do it. Everyone can have a good time solving the hundreds of real-world problems algebra can help answer. Course activities make the numbers, graphs, and equations more real. The content in this course is tied to real-world applications like sports, travel, business, and health.

This course is designed to give students the skills and strategies to solve all kinds of mathematical problems. Students will also acquire the confidence needed to handle everything high school math has in store for them. Integrated Mathematics I emphasizes the importance of algebra and geometry in everyday life through hundreds of real-world examples. Assessments are designed to ensure that your understanding goes beyond rote memorization of steps and procedures. Upon successful course completion, you will have a strong foundation in Integrated Mathematics I and will be prepared for other higher level math courses.

Estimated Completion Time:2 segments / 32-36 weeks

Major Topics and Concepts:

Segment I

Module 01: Algebra Foundations

- 01.00 Module One Introduction and Pretest
- 01.01 Numerical Operations
- 01.02 Algebraic Expressions
- 01.03 Units and Graphs
- 01.04 Module One Quiz
- 01.05 Descriptive Modeling and Accuracy
- 01.06 Translations
- 01.07 Algebraic Properties and Equations
- 01.08 Module One Review and Practice Test
- 01.09 Discussion-Based Assessment
- 01.10 Collaboration Component
- 01.11 Module One Test

Module 02: Equations and Inequalities

- 02.00 Module Two Pretest
- 02.01 One-Variable Equations
- 02.02 Two-Variable Equations

- 02.03 Absolute Value Equations
- 02.04 Module Two Quiz
- 02.05 Inequalities
- 02.06 Compound Inequalities
- 02.07 Literal Equations
- 02.08 Module Two Review and Practice Test
- 02.09 Discussion-Based Assessment
- 02.10 Module Two Test

Module 03: Linear Functions

- 03.00 Module Three Pretest
- 03.01 Relations and Functions
- 03.02 Function Notation and Graphs
- 03.03 Linear Functions
- 03.04 Module Three Quiz
- 03.05 Linear Models
- 03.06 Writing Linear Functions
- 03.07 Horizontal and Vertical Lines
- 03.08 Reflection
- 03.09 Module Three Review and Practice Test
- 03.10 Discussion-Based Assessment
- 03.11 Module Three Test

Module 04: Exponential Functions

- 04.00 Module Four Pretest
- 04.01 Properties of Exponents
- 04.02 Operations with Radicals
- 04.03 Exponential Functions and Models
- 04.04 Module Four Quiz
- 04.05 Graphing Exponential Functions
- 04.06 Sequences
- 04.07 Exploring Linear and Exponential Growth
- 04.08 Module Four Review and Practice Test
- 04.09 Discussion-Based Assessment
- 04.10 Module Four Test

Module 05: Systems of Equations

- 05.00 Module Five Pretest
- 05.01 Solving Systems of Equations Graphically
- 05.02 Solving Systems of Equations Algebraically
- 05.03 Solving Systems of Equations Approximately
- 05.04 Module Five Quiz
- 05.05 Two-Variable Linear Inequalities

- 05.06 Systems of Linear Inequalities
- 05.07 Reflection
- 05.08 Segment One Honors Project
- 05.09 Module Five Review and Practice Test
- 05.10 Discussion-Based Assessment
- 05.11 Module Five Test
- 05.12 Segment One Review and Practice Test
- 05.13 Segment One Exam
- 05.14 Segment One Honors Extension Exam

Segment II

Module 06: Statistics

- 06.00 Module Six Introduction and Pretest
- 06.01 Representing Data
- 06.02 Comparing Data Sets
- 06.03 Data Sets and Outliers
- 06.04 Module Six Quiz
- 06.05 Two-Way Frequency Tables
- 06.06 Scatter Plots and Line of Best Fit
- 06.07 Correlation and Causation
- 06.08 Reflection
- 06.09 Module Six Review and Practice Test
- 06.10 Collaboration Component
- 06.11 Discussion-Based Assessment
- 06.12 Module Six Test

Module 07: Polynomials

- 07.00 Module Seven Pretest
- 07.01 Introduction to Polynomials
- 07.02 Addition and Subtraction of Polynomials
- 07.03 Multiplication of Monomials
- 07.04 Division of Monomials
- 07.05 Module Seven Quiz
- 07.06 Multiplication of Polynomials
- 07.07 Special Products
- 07.08 Division of Polynomials
- 07.09 Function Operations
- 07.10 Module Seven Review and Practice Test
- 07.11 Discussion-Based Assessment
- 07.12 Module Seven Test

Module 08: Factoring

- 08.00 Module Eight Pretest
- 08.01 Greatest Common Factor
- 08.02 Factoring By Grouping
- 08.03 Factoring Trinomials
- 08.04 Module Eight Quiz
- 08.05 Perfect Square Trinomials
- 08.06 Difference of Perfect Squares
- 08.07 Polynomial Functions
- 08.08 Reflection
- 08.09 Module Eight Review and Practice Test
- 08.10 Discussion-Based Assessment
- 08.11 Module Eight Test

Module 09: Quadratic Functions

- 09.00 Module Nine Pretest
- 09.01 Quadratic Models
- 09.02 Quadratics and Completing the Square
- 09.03 Module Nine Quiz
- 09.04 Quadratics and the Quadratic Formula
- 09.05 Applications of Quadratic Functions
- 09.06 Exploring Non-Linear Systems and Growth
- 09.07 Segment Two Honors Project
- 09.08 Module Nine Review and Practice Test
- 09.09 Discussion-Based Assessment
- 09.10 Module Nine Test

Module 10: Foundational Geometry

- 10.00 Module Ten Pretest
- 10.01 Basics of Geometry
- 10.02 Using the Coordinates
- 10.03 Slope
- 10.04 Module Ten Quiz
- 10.05 Coordinate Applications
- 10.06 Formulas
- 10.07 Applications of Volume
- 10.08 Module Ten Review and Practice Test
- 10.09 Discussion-Based Assessment
- 10.10 Module Ten Test
- 10.11 Segment Two Review and Practice Test
- 10.12 Exam Preparation
- 10.13 Segment Two Exam
- 10.14 Segment Two Honors Extension Exam

Course Assessment and Participation Requirements:

To achieve success, students are expected to submit work in each course weekly. Students can learn at their own pace; however, “any pace” still means that students must make progress in the course every week. To measure learning, students complete self-checks, practice lessons, multiple choice questions, projects, discussion-based assessments, and discussions. Students are expected to maintain regular contact with teachers; the minimum requirement is monthly. When teachers, students, and parents work together, students are successful.