Syllabus

Integrated Math 1A

Course Overview

Integrated Math is a comprehensive collection of mathematical concepts designed to give you a deeper understanding of the world around you. It includes ideas from algebra, geometry, probability and statistics, and trigonometry, and teaches them as interrelated disciplines. It's likely that you've been studying some form of integrated math since elementary school.

In Integrated Math 1A, you will begin with algebra. You will build on your understanding of single-variable and two-variable expressions, equations, and inequalities. You will also learn how to write equations and inequalities to represent and solve word problems.

Course Goals

This course will help you meet the following goals:

- Perform addition, subtraction, multiplication, and division with monomial, binomial, and other polynomial expressions.
- Write and solve linear equations that represent a word problem or a real-life scenario.
- Write and solve linear inequalities that represent a word problem or a real-life scenario.
- Graph linear equations and inequalities on a coordinate plane.
- Find the slope and intercepts of a linear equation.
- Find a linear equation by looking at its graph.
- Apply the slope-intercept form and point-slope form of an equation of a line.
- Graph a system of linear equations and inequalities.
- Solve linear systems using substitution, linear combinations, and addition.

General Skills

To participate in this course, you should be able to do the following:

- Complete basic operations with word-processing software, such as Microsoft Word or Google Docs.
- Perform online research using various search engines and library databases.
- Communicate through email and participate in discussion boards.

For a complete list of general skills that are required for participation in online courses, refer to the Prerequisites section of the Plato Student Orientation document, found at the beginning of this course.

Credit Value

Integrated Math 1A is a 0.5-credit course.

Course Materials

- Notebook
- Computer with Internet connection and speakers or headphones
- Microsoft Word or equivalent
- Microsoft Excel or equivalent

Course Pacing Guide

This course description and pacing guide is intended to help you stay on schedule with your work. Note that your course instructor may modify the schedule to meet the specific needs of your class.

Unit 1: Single-Variable Expressions

Summary

In this unit, you will begin by performing simple operations with monomial and binomial expressions. You will then work with single-variable expressions, equations, and inequalities. Finally, you will write equations and inequalities to represent and solve word problems.

Day	**Activity**/*Objective*	Type
1 day 1	**Syllabus and Plato Student Orientation** *Review the Plato Student Orientation and Course Syllabus at the beginning of this course.*	Course Orientation
2 days 2-3	**Adding Monomials** *Add monomials.*	Lesson
2 days 4-5	**Subtracting Monomials** *Subtract monomials.*	Lesson
2 days 6-7	**Multiplying Monomials** *Multiply monomials.*	Lesson

2 days 8-9	**Dividing Monomials** *Divide monomials.*	Lesson
2 days 10-11	**Adding Binomials and Monomials** *Add binomials.*	Lesson
2 days 12-13	**Subtracting Binomials and Monomials** *Subtract binomials.*	Lesson
2 days 14-15	**Multiplying Monomials and Binomials** *Multiply binomials.*	Lesson
2 days 16-17	**Dividing Binomials by Monomials** *Divide binomials.*	Lesson
2 days 18-19	**Linear Equations in 1 Variable: Isolating the Variable** *Solve more-difficult linear equations by isolating the variable.*	Lesson
2 days 20-21	**Literal Equations** *Write literal equations to solve math problems.*	Lesson
3 days 22-24	**Using Linear Equations to Solve Problems** *Use linear math sentences in one variable to solve practical problems.*	Lesson
2 days 25-26	**Linear Inequalities in 1 Variable, Part 1** *Solve linear inequalities using addition and subtraction.*	Lesson

2 days 27-28	**Linear Inequalities in 1 Variable, Part 2** *Solve linear inequalities for which multiplication and division are required.*	Lesson
2 days 29-30	**More-Difficult Linear Inequalities in 1 Variable** *Solve more-difficult linear inequalities by isolating the variable.*	Lesson
3 days 31-33	**Unit Activity/Threaded Discussion —Unit 1**	Unit Activity
1 day 34	**Posttest—Unit 1**	Assessment

Unit 2: Two-Variable Equations, Inequalities, and Graphs

Summary
In this unit, you will learn to write equations with two variables to represent linear relationships, graph the equations on a coordinate plane, and interpret the graphs to solve word problems. You will also learn how to find the slope and intercepts of a linear equation from its graph. To do this, you will use both the point-slope form and the slope-intercept form of the equation of a line.

Day	**Activity**/*Objective*	Type
3 days 35-37	**Ordered Pairs as Solutions of Linear Equations** *Determine whether an ordered pair is a solution of a linear equation.*	Lesson
3 days 38-40	**Graphing Linear Equations in 2 Variables** *Determine if a point is on the graph of a linear equation.*	Lesson
3 days 41-43	**Graphs, Slopes, and *y*-Intercepts** *Determine the slope and intercept of a linear relationship from its graph.*	Lesson

3 days 44-46	**Finding *x*- and *y*-Intercepts of a Linear Equation** *Find the intercepts of a linear equation.*	Lesson
3 days 47-49	**Equations, Graphs, Slopes, and *y*-Intercepts** *Use the slope and intercept of linear functions to write an equation from a graph, and draw a graph from an equation.*	Lesson
2 days 50-51	**Slope-Intercept Form** *Apply the slope-intercept form of the equation of a line.*	Lesson
2 days 52-53	**Point-Slope Form** *Apply the point-slope form of the equation of a line.*	Lesson
3 days 54-56	**Interpreting Graphs to Solve Problems** *Solve problems or answer questions based on linear graphs that represent real-world situations.*	Lesson
3 days 57-59	**Unit Activity/Threaded Discussion—Unit 2**	Unit Activity
1 day 60	**Posttest—Unit 2**	Assessment

Unit 3: Systems of Equations

Summary
In this unit, you will learn how to use systems of linear equations and linear inequalities to represent and solve word problems. You will solve both types of systems by graphing. You will also use other methods to solve these systems—including substitution, linear combinations, and addition—to solve systems of linear equations.

Day	**Activity**/*Objective*	Type
3 days 61-63	**Graphing Linear Inequalities in Two Variables** *Graph linear inequalities in two variables.*	Lesson

3 days 64-66	**Solving and Graphing Systems of Equations** *Solve a system of linear equations.*	Lesson
3 days 67-69	**Solving Systems of Linear Inequalities by Graphing** *Solve a system of inequalities by graphing.*	Lesson
3 days 70-72	**Solving Problems with Systems of Linear Equations** *Solve practical problems with two variables.*	Lesson
3 days 73-75	**Solving Linear Systems Using Substitution** *Solve linear equations using the substitution method.*	Lesson
3 days 76-78	**Solving Linear Systems Using Linear Combinations** *Solve systems of linear equations using the linear combinations method.*	Lesson
3 days 79-81	**Solving Linear Systems of Equations: Addition** *Solve a system of equations by adding or subtracting.*	Lesson
3 days 82-84	**Solving Problems with Linear Systems** *Solve word problems using a system of two linear equations or inequalities.*	Lesson
3 days 85-87	**Graphing Linear Inequalities in Two Variables** *Graph linear inequalities in two variables.*	Unit Activity
1 day 88	**Posttest—Unit 3**	Assessment

1 day 89	**Semester Review**	
1 day 90	**End-of-Semester Test**	Assessment