

# Integrated Alg2 PreCalc Unit 02: Systems of Equations and Inequalities

Content Area: **Math**  
Course(s): **Integrated Algebra II & PreCalculus**  
Time Period: **Semester 1**  
Length: **2.5 cycles**  
Status: **Published**

## Unit Introduction

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## Standards

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MA.A-CED.A.2	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
MA.A-CED.A.3	Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.
MA.A-REI.C.5	Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.
MA.A-REI.C.6	Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.
MA.A-REI.D.11	Explain why the $x$ -coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$ ; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.

## Essential Questions

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- How does representing functions graphically help you solve a system of equations?
- How does writing equivalent equations help you solve a system of equations?

## Content

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- Application Problems Involving Systems
- Solving Systems Algebraically
- Solving Systems of Various Functions
- Solving Systems Using Tables and Graphs

## Skills

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- Solve a linear system by elimination
- Solve a linear system by graphing
- Solve a linear system by substitution
- Solve application problems using systems of equations
- Use graphing calculators and technology where appropriate
- Use relevant vocabulary, notations, and symbols when appropriate