

# Unit 01: A1 - Ch. 1 & 2 - Expressions, Equations, & Inequalities

Content Area: **Math**  
Course(s): **Algebra1 CP, Algebra 1A, Algebra 1H**  
Time Period: **Marking Period 1**  
Length: **19 Days**  
Status: **Published**

## Unit Introduction

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## Standards

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MA.N-Q.A.1	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.
MA.N-Q.A.3	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
MA.N-RN.B.3	Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.
MA.A-CED.A.1	Create equations and inequalities in one variable and use them to solve problems.
MA.A-CED.A.4	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.
MA.A-REI.A.1	Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.
MA.A-REI.B.3	Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.
MA.A-SSE.A.1	Interpret expressions that represent a quantity in terms of its context.

## Essential Questions

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- Can equations that appear to be different be equivalent?
- How are properties related to algebra?
- How can you represent quantities, patterns, and relationships?
- How can you solve equations?
- What kinds of relationships can proportions represent?

## Content

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- 1.1 - Variables & Expressions (0.5 Days)

- 1.2 - Order of Operations & Evaluating Expressions (0.5 Days)
- 1.5 & 1.6 - Adding, Subtracting, Multiplying, & Dividing Real Numbers (1 Day)
- 1.7 - The Distributive Property (0.5 Days)
- 2.1 & 2.2 - Solving One-Step and Two-Step Equations (2 Days)
- 2.3 - Solving Multi-Step Equations (2 Days)
- 2.4 - Solving Equations With Variables on Both Sides (1 Day)
- 2.5 - Literal Equations & Formulas (2 Days)
- 2.6 - Ratios, Rates, and Conversions (2 Days)
- 2.7 - Solving Proportions (1 Day)
- 2.9 & 2.10 - Percents & Change Expressed as a Percent (2 Days)

## Skills

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- Adding, Subtracting, Multiplying, and Dividing Real Numbers
- Combining Like Terms
- Combining Like Terms
- Comparing Unit Rates
- Converting Rates
- Converting Units
- Converting Units Between Systems
- Evaluating a Real-World Expression
- Evaluating Algebraic Expressions
- Finding a Base
- Finding a Part
- Finding a Percent Decrease
- Finding a Percent Increase
- Finding a Percent Using the Percent Equation
- Finding a Percent Using the Percent Proportion
- Finding Minimum and Maximum Dimensions
- Finding Percent Error
- Finding the Greatest Possible Percent Error
- Identities and Equations with No Solution
- Rewriting a Formula
- Rewriting a Geometric Formula
- Rewriting a Literal Equation
- Rewriting a Literal Equation with Only Variables
- Rewriting Fraction Expressions
- Simplifying a Numerical Expression
- Simplifying Expressions

- Simplifying Powers
- Solving a Multi-Step Equation
- Solving a Multi-Step Proportion
- Solving a Proportion Using the Cross Products Property
- Solving a Proportion Using the Multiplication Property
- Solving a Two-Step Equation
- Solving an Equation that Contains Decimals
- Solving an Equation that Contains Fraction
- Solving an Equation Using Addition, Subtraction, Multiplication, and Division
- Solving an Equation Using the Distributive Property
- Solving an Equation With Grouping Symbols
- Solving an Equation with Variables on Both Sides
- Solving Equations Using Reciprocals
- Solving With Two Terms in the Numerator
- Use graphing calculators and technology where appropriate
- Use relevant vocabulary, notations, and symbols when appropriate
- Using a One-Step Equation as a Model
- Using a Proportion to Solve a Problem
- Using an Equation as a Model
- Using an Equation with Variables on Both Sides
- Using Deductive Reasoning
- Using Multiplication Property of -1
- Using the Distributive Property for Mental Math
- Using the Simple Interest Formula
- Using Words for an Expression
- Writing a Rule to Describe a Pattern
- Writing Expressions with Addition & Subtraction
- Writing Expressions with Multiplication & Division
- Writing Expressions with Two Operations