

# Algebra 1, Part 2

## ATTENTION

Grading at the end of the semester can take 7 school days!  
Submit your **last assignment two weeks** before your school's semester ends.



The prerequisite for this course is: Algebra 1, Part 1

## How to Take This Course

Each unit includes guided notes that align with the lesson videos. The lesson quizzes, unit tests, and final exam are all based on the content covered in these videos. Most lessons also include links to optional resources or practice assignments. You're encouraged to explore these additional materials if you'd like extra support or more practice on specific topics.

Complete all the quizzes and the assignment in each unit. Once the quizzes for a unit are complete, you will have access to the unit test. We recommend you complete the unit assignment before you attempt the unit test; the assignment will help you prepare. You will have access to the final after you have been enrolled in the course for at least 30 days, all unit tests are completed, and your assignments are graded.

Allow 3-4 school days for an assignment to be graded. To understand the course grading, read the full course instructions.

[Course Instructions](#)

[How This Course Works & Suggested Timeline](#)

[Submitting Your Assignments](#)

[Ask The Teacher](#)

Meet your teacher for this course and ask a question.

**Need help with the course?** We offer online tutoring; find more details about it [here](#).

**MANDATORY QUIZ** Completion ▾

You are required to take this quiz before you start the course. To prepare, read the course instructions and the "submitting your assignments" document, watch the video on the how this course works page and review the suggested timeline.

[Learning Objectives & Standards Met By This Course](#)

## Unit 1: Exponents, Radicals, and Rational Expressions

In this unit, you will

- Apply the rules of exponents to simplify expressions with positive, zero, and negative exponents.
- Simplify perfect squares, cubes, and radical expressions using various methods.
- Convert between radical and rational exponent forms and perform operations with both.
- Multiply, divide, add, and subtract radical and rational expressions, including binomials and conjugates.
- Use exponent and radical rules to simplify and evaluate complex algebraic expressions.

[Unit 1 Guided Notes](#)

These guided notes correspond to the instructional videos. You may use them on the unit quizzes, unit tests, and course final.

As you work through the lessons, you are encouraged to work through the [practice problem set](#), and check your answers against the key.

[1.1 Multiplication Properties of Exponents](#)

[Quiz 1.1](#) Completion ▾

[1.2 Division Properties of Exponents](#)

[Quiz 1.2](#) Completion ▾

[1.3 Zero and Negative Exponents](#)

[Quiz 1.3](#) Completion ▾

[1.4 Perfect Squares and Cubes](#)

[Quiz 1.4](#) Completion ▾

[1.5 Simplifying Radical Expressions](#)

[Quiz 1.5](#) Completion ▾

[1.6 Rational and Radical Multiplication and Division](#)

[Quiz 1.6](#) Completion ▾

[1.7 Rational and Radical Addition and Subtraction](#)

[Quiz 1.7](#) Completion ▾

[Unit 1 Assignment: Exponents and Radicals Video Project](#) Completion ▾

[Unit 1 Test](#)

Not available unless: The activity [Quiz 1.1](#) is marked complete ...

[Show more ▾](#)

## Unit 2: Exponential Functions

In this unit, you will

- Identify, write, and graph exponential functions representing growth and decay.
- Calculate rates of change and compare linear and exponential relationships.
- Solve real-world problems using exponential models and formulas.
- Analyze arithmetic and geometric sequences and write explicit formulas for each.
- Distinguish between additive and multiplicative patterns in tables, graphs, and contexts.

[Unit 2 Guided Notes](#)

These guided notes correspond to the instructional videos. You may use them on the unit quizzes, unit tests, and course final.

As you work through the lessons, you are encouraged to work through the [practice problem set](#), and check your answers against the key.

[2.1 Rates of Change in Exponential Functions](#)

[Quiz 2.1](#) Completion ▾

[2.2 Writing and Graphing Exponential Models](#)

[Quiz 2.2](#) Completion ▾

[2.3 Exponential Growth](#)

[Quiz 2.3](#) Completion ▾

[2.4 Exponential Decay](#)

[Quiz 2.4](#) Completion ▾

[2.5 Linear vs Exponential](#)

[Quiz 2.5](#) Completion ▾

[2.6 Arithmetic Sequences](#)

[Quiz 2.6](#) Completion ▾

[2.7 Geometric Sequences](#)

[Quiz 2.7](#) Completion ▾

[Unit 2 Assignment: Exponential Growth and Decay](#) Completion ▾

[Unit 2 Test](#)

Not available unless: The activity [Quiz 2.1](#) is marked complete ...

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## Unit 3: Polynomials

In this unit, you will

- Add, subtract, and multiply polynomial expressions, including using the FOIL method and special products.
- Apply factoring techniques such as factoring out the GCF, factoring trinomials, and recognizing special products like perfect square trinomials and differences of squares.
- Solve geometric problems involving area using polynomial expressions.
- Divide polynomials by monomials and binomials, including factoring and simplifying rational expressions.
- Identify standard form, degree, leading coefficient, and classification of polynomials by terms and degree.

[Unit 3 Guided Notes](#)

These guided notes correspond to the instructional videos. You may use them on the unit quizzes, unit tests, and course final.

As you work through the lessons, you are encouraged to work through the [practice problem set](#), and check your answers against the key.

[3.1 Adding and Subtracting Polynomials](#)

[Quiz 3.1](#) Completion ▾

[3.2 Multiplying Polynomials](#)

[Quiz 3.2](#) Completion ▾

[3.3 Special Products of Binomials](#)

[Quiz 3.3](#) Completion ▾

[3.4 Factoring by Greatest Common Factor \(GCF\)](#)

[Quiz 3.4](#) Completion ▾

[3.5 Factoring Quadratic Trinomials](#)

[Quiz 3.5](#) Completion ▾

[3.6 Factoring Special Products](#)

[Quiz 3.6](#) Completion ▾

[3.7 Dividing Rational Polynomials](#)

[Quiz 3.7](#) Completion ▾

[Unit 3 Assignment: Factoring Analysis](#) Completion ▾

[Unit 3 Test](#)

Not available unless: The activity [Quiz 3.1](#) is marked complete ...

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## Unit 4: Quadratic Functions and Equations

In this unit, you will

- Explore quadratic functions in different forms—standard, vertex, and factored—and learn to identify key features such as vertex, axis of symmetry, and direction of opening.
- Graph quadratic functions and describe transformations from the parent function.
- Solve quadratic equations using graphing, factoring, square roots, completing the square, and the quadratic formula.
- Use the discriminant to determine the number of real solutions to a quadratic equation.
- Analyze and solve systems that include linear and quadratic equations and compare quadratic models with linear and exponential ones.

[Unit 4 Guided Notes](#)

These guided notes correspond to the instructional videos. You may use them on the unit quizzes, unit tests, and course final.

As you work through the lessons, you are encouraged to work through the [practice problem set](#), and check your answers against the key.

[4.1 Introduction to Quadratic Functions and Equations](#)

[Quiz 4.1](#) Completion ▾

[4.2 Graphing Quadratic Functions](#)

[Quiz 4.2](#) Completion ▾

[4.3 Solving Quadratic Equations by Graphing](#)

[Quiz 4.3](#) Completion ▾

[4.4 Solving Quadratic Equations by Factoring](#)

[Quiz 4.4](#) Completion ▾

[4.5 Solving Quadratic Equations by Using Square Roots](#)

[Quiz 4.5](#) Completion ▾

[4.6 Solving Quadratic Equations by Completing the Square](#)

[Quiz 4.6](#) Completion ▾

[4.7 The Quadratic Formula](#)

[Quiz 4.7](#) Completion ▾

[4.8 The Discriminant](#)

[Quiz 4.8](#) Completion ▾

[4.9 Systems of Linear-Quadratic Equations](#)

[Quiz 4.9](#) Completion ▾

[4.10 Comparing Linear, Quadratic, and Exponential Models](#)

[Quiz 4.10](#) Completion ▾

[Unit 4 Assignment: Who Threw That?](#) Completion ▾

[Unit 4 Test](#)

Not available unless: The activity [Quiz 4.1](#) is marked complete ...

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## Unit 5: Statistics and Data Analysis

In this unit, you will

- Classify data as quantitative or qualitative, and understand concepts like sample, population, and types of variables.
- Calculate and interpret measures of center and spread, including mean, median, mode, range, IQR, and standard deviation.
- Represent and analyze univariate data using visual tools such as dot plots, box plots, histograms, bar graphs, and pie charts.
- Create and interpret two-way frequency tables and calculate joint, marginal, and conditional relative frequencies.
- Analyze scatterplots, fit and interpret linear models, assess model accuracy using residuals, and distinguish between correlation and causation.

[Unit 5 Guided Notes](#)

These guided notes correspond to the instructional videos. You may use them on the unit quizzes, unit tests, and course final.

As you work through the lessons, you are encouraged to work through the [practice problem set](#), and check your answers against the key.

[5.1 Quantitative and Qualitative Data](#)

[Quiz 5.1](#) Completion ▾

[5.2 Measures of Center and Spread](#)

[Quiz 5.2](#) Completion ▾

[5.3 Representing Univariate Data](#)

[Quiz 5.3](#) Completion ▾

[5.4 Two-Way Frequency Tables](#)

[Quiz 5.4](#) Completion ▾

[5.5 Scatterplots and Linear Relationships](#)

[Quiz 5.5](#) Completion ▾

[5.6 Trend Lines and Interpreting Linear Models](#)

[Quiz 5.6](#) Completion ▾

[5.7 Line of Best Fit and Evaluating Linear Models](#)

[Quiz 5.7](#) Completion ▾

[Unit 5 Assignment: Exploring Data](#) Completion ▾

[Unit 5 Test](#)

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## Final Exam

You will have access to the final after you have been enrolled in the course for at least 30 days and when all unit tests are completed, and your assignments are graded.

**Warning:** You have only ONE attempt at the final. Are you ready to take the final? We highly recommend you take the practice final first, and if you are not in any area, review the relevant course material again. You have unlimited attempts at the practice final; it will help you to prepare.

Remember, if you want to improve your grade in this course, you need to do that BEFORE you take the final exam.

Good Luck!!

Not available unless: The activity [MANDATORY QUIZ](#) is marked complete

## Course Completion & Requesting a Transcript

**Warning** - If you are waiting for a resubmitted assignment to be graded, do NOT generate any course completion record until the teacher has graded it.

**Transcript** - Send a transcript to your school to report the credits you earned. A transcript will list all the courses you have taken with us, including those still in progress.

**Course Certificate** - This link cannot be accessed until you have completed the final. Upon satisfying this requirement, the link will become active.

**Feedback** - Before you go, we would appreciate your opinion on the course; please take 1 minute to complete the feedback form. We hope you enjoyed this course!

[Course Feedback](#)

Thank you for taking this course! Let us know what you think about it.

[Request a Transcript](#)

Notify your school that you have completed your course. Send them a transcript by email or mail. A transcript will list all the courses you have completed and those in progress.

[Certificate of Completion](#)

Not available unless: The activity [Final Exam](#) is marked complete