Algebra 2, Part 2

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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 prerequisites for this course are: Algebra 1, Geometry and Algebra 2, 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 ✓ Done

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: Exponential and Logarithmic Functions

In this unit, you will

- Analyze and graph exponential and logarithmic functions, including identifying key features and applying transformations.
- Use properties of logarithms to simplify, expand, and condense expressions.
- Solve exponential and logarithmic equations using algebraic strategies and the change of base formula.
- Apply exponential and logarithmic models to real-world contexts, including compound interest, growth and decay, and regression.
- Explore and evaluate geometric sequences and series, including finite and infinite cases.

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.

1.1 Exponential Growth and Decay

Quiz 1.1 To do

1.2 Logarithms and Logarithmic Functions

Quiz 1.2 To do

1.3 Properties of Logarithms

Quiz 1.3 To do

1.4 The Natural Base e

Quiz 1.4 To do

1.5 Transformations of Exponential and Logarithmic Functions

Quiz 1.5 To do

1.6 Solving Exponential and Logarithmic Equations

Quiz 1.6 To do

1.7 Modeling with Exponential and Logarithmic Functions

Quiz 1.7 To do

1.8 Geometric Sequences and Series

Quiz 1.8 To do

Unit 1 Assignment: Logarithm Puzzles To do

Unit 2: Rational Functions

In this unit, you will

- Recognize and model direct, inverse, and joint variation relationships in real-world and mathematical contexts.
- Perform operations with rational expressions, including simplifying, multiplying, dividing, adding, and subtracting.
- Solve rational equations and inequalities using algebraic methods, and interpret excluded values.
- Analyze, graph, and interpret rational functions, including identifying intercepts, holes, and asymptotes.
- Determine domains and ranges of rational functions and use them to understand function behavior.

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.

2.1 Variation

Quiz 2.1 To do

2.2 Multiplying and Dividing Rational Expressions

Quiz 2.2 To do

2.3 Adding and Subtracting Rational Expressions

Quiz 2.3 To do

2.4 Solving Rational Equations and Inequalities

Quiz 2.4 To do

2.5 Graphing Rational Functions

Quiz 2.5 To do

Unit 2 Assignment: Rational Equations and Functions To do

Unit 3: Radical Functions

In this unit, you will

- Simplify and evaluate radical expressions, including those with variables and higher-order roots.
- Convert between rational exponents and radical notation and apply exponent properties.
- Graph radical functions, including square root and cube root functions, and analyze their domains, ranges, and transformations.
- Perform operations with radical expressions, including addition, subtraction, multiplication, division, and rationalization.
- Solve radical equations, including those with one or more radical terms, and check for extraneous solutions.

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.

3.1 nth Roots

Quiz 3.1 To do

3.2 Properties of Rational Exponents and Radicals

Quiz 3.2 To do

3.3 Graphing Radical Functions

Quiz 3.3 To do

3.4 Operations with Radical Expressions

Quiz 3.4 To do

3.5 Solving Radical Equations

Quiz 3.5 To do

Unit 3 Assignment: Estimating Speed from Skid Marks To do

Unit 4: Trigonometric Functions and Identities

In this unit, you will

- Use the Pythagorean Theorem and properties of special right triangles to find missing side lengths.
- Understand and apply the definitions of sine, cosine, and tangent in right triangles and on the unit circle.
- Convert between degrees and radians, and evaluate trigonometric functions of special angles.
- Graph trigonometric functions and identify characteristics of each.
- Apply trigonometric identities to evaluate and simplify expressions.

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.

4.1 Right Triangle Trigonometry

Quiz 4.1 To do

4.2 Angles & Radian Measure

Quiz 4.2 To do

4.3 The Unit Circle

Quiz 4.3 To do

4.4 Graphing Sine and Cosine Functions

Quiz 4.4 To do

4.5 Graphing Other Trigonometric Functions

Quiz 4.5 To do

4.6 Fundamental Trigonometric Identities

Quiz 4.6 To do

4.7 Sum and Difference Identities

Quiz 4.7 To do

4.8 Double-Angle and Half-Angle Identities

Quiz 4.8 To do

Unit 4 Assignment: Modeling Periodic Motion with Trigonometry To do

Unit 5: Statistics

In this unit, you will

- Use the normal distribution, mean, and standard deviation to analyze data.
- Distinguish between populations and samples, and formulate null and alternative hypotheses for experiments and surveys.
- Identify and apply appropriate sampling methods while minimizing bias in data collection.
- Design and evaluate experiments using control groups, randomization, and replication, and analyze the difference between correlation and causation.
- Use sample data and simulations to make inferences about treatments, proportions, and margins of error in survey and experimental settings.

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.

5.1 The Normal Distribution

Quiz 5.1 To do

5.2 Populations, Samples and Hypotheses

Quiz 5.2 To do

5.3 Collecting Data

Quiz 5.3 To do

5.4 Experimental Design

Quiz 5.4 To do

5.5 Making Inferences from Sample Surveys

Quiz 5.5 To do

5.6 Making Inferences from Experiments

Quiz 5.6 To do

Unit 5 Assignment: Walking Statistics To do

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 weak 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!!

Practice Final

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