



Algebra 1

Algebra 1 - Year at a Glance

Course # 1200310, 1200320

This course is a high school course for one HS credit and includes an employability grade.

A Note to Parents: The Florida state standards require math teachers plan lessons that build knowledge of various mathematical concepts, develop the ability to apply these concepts, and engage students in critical thinking and discourse. All standards in the state course description are designed to be learned by the end of the course.

Please note the units of study listed below indicate the course sequence. Instructional pacing may vary. Specific questions regarding when content will be addressed in a specific course are best answered by the individual teacher.

Graduation Requirements: Students earning a standard high school diploma must earn at least one math credit in Algebra 1 or an equivalent course. The student must also pass the FSA Algebra 1 End of Course Exam (EOC) or earn a concordant score. More information on graduation requirements and concordant scores can be found here:

[Graduation Requirements for Florida's Statewide Assessments.](#)

Course Description

The fundamental purpose of this course is to formalize and extend the mathematics that students learned in the middle grades. The critical areas, called units, deepen and extend understanding of linear and exponential relationships by contrasting them with each other and by applying linear models to data that exhibit a linear trend, and students engage in methods for analyzing, solving, and using quadratic functions.

Algebra 1 students become fluent in solving characteristic problems involving the analytic geometry of lines, such as writing down the equation of a line given a point and a slope. Such fluency can support them in solving less routine mathematical problems involving linearity, as well as in modeling linear phenomena (including modeling using systems of linear inequalities in two variables).

Honors and Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning.

IB MYP Notes: The International Baccalaureate® aims to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect. The MYP curriculum framework comprises eight subject groups, providing a broad and balanced education for early adolescents. The MYP requires at least 50 hours of teaching time for each subject group, in each year of the program. The MYP is inclusive by design; students of all interests and academic abilities can benefit from their participation.

Topics exclusively taught in Honors Algebra 1 are italicized below.

CPALMS Link

Please follow the link below to learn more about the course expectations, the course standards, and to access student resources. The student resources include Florida Department of Education recommended resources that students can use to learn the concepts and skills in this course.

Algebra 1: <https://www.cpalms.org/PreviewCourse/Preview/10288>

Honors Algebra 1: <https://www.cpalms.org/PreviewCourse/Preview/10290>

	Unit of Study	Unit Sequence
Quarter 1 Aug 10 – Oct 12	Unit 0: Pre-Algebra Review	<ul style="list-style-type: none"> Simplifying expressions using Order of Operations Simplifying expressions using the Distributive Property and combining like terms Operations on integers Operations on rational numbers
	Unit 1: Linear Equations	Unit 1 deepens the foundational skills that a student involving equations as well as expand into new skills involving equations. <ul style="list-style-type: none"> Solving simple equations Solving multi-step equations Solving equations with variables on both sides Rewriting equations and formulas
	Unit 2: Linear Inequalities	Unit 2 uses techniques learned in unit 1 (solving linear equations) and applies those same techniques to solving linear inequalities. Students will also learn new skills that will extend their knowledge of inequalities. <ul style="list-style-type: none"> Writing and Graphing inequalities Solving simple inequalities Solving multi-step inequalities Solving compound inequalities
	Unit 3a: Introduction to Functions	Unit 3a introduces function notation, representing functions, and evaluating functions. <ul style="list-style-type: none"> Define and identify functions Function notation Domain and Range (discrete and continuous) Evaluate x given $f(x)$ Interpret statements in function notation Linear vs. non-linear
	Unit 3b: Graphing Linear Functions	Unit 3b focuses on graphing linear functions and transformations of linear functions. <ul style="list-style-type: none"> Graph linear equations in standard form Graph linear equations in slope-intercept form Transformations of linear equations
Quarter 2 Oct 13 – Dec 22	Unit 4: Writing Linear Functions	Unit 4 expands the students' knowledge of linear functions by learning how to write linear functions using multiple methods. <ul style="list-style-type: none"> Writing equations in slope-intercept form Writing equations in point-slope form Scatterplots and lines of best fit Analyzing lines of fit <i>Arithmetic Sequences</i>
	Unit 5a: Systems of Equations	Unit 5a introduces students to systems of equations. This unit they will learn how to solve systems of equations using multiple methods. <ul style="list-style-type: none"> Solving systems of linear equations by graphing Solving systems of equations by substitution Solving systems of linear equations by elimination Solving special systems of equations Linear equations word real-life applications

	Unit 5b: Systems of Equations	Unit 5b expands on what the student learned in unit 5a by solving systems of equations and inequalities using graphing. <ul style="list-style-type: none"> Solving equations by graphing Graphing linear inequalities in two variables Systems of linear inequalities
Quarter 3 Jan 11 – Mar 11	Unit 6: Exponential Functions	Unit 6 introduces students to exponential functions and sequences. Lessons learned in this unit will build the foundation needed for success in subsequent math courses. <ul style="list-style-type: none"> Properties of exponents Radicals and rational exponents Exponential functions Exponential growth and decay <i>Geometric sequences</i> <i>Recursively defined sequences</i>
	Unit 7a: Polynomial Expressions and Equations	Unit 7a students will learn about the foundation of polynomials. Students learn how apply operations to polynomials as well as solving some forms of polynomial equations. <ul style="list-style-type: none"> Adding and subtracting polynomials Multiplying polynomials Special products of polynomials Solving polynomials in factored form
	Unit 7b: Factoring Polynomials	Unit 7b students will learn how to solve polynomial equations using a variety of methods. <ul style="list-style-type: none"> Factoring $x^2 + bx + c$ Factoring $ax^2 + bx + c$ Factoring special products Factoring polynomials
	Unit 8a: Quadratic Functions – Part 1	In unit 8a students will learn about graphing quadratic functions in any form of $f(x) = ax^2 + bx + c$ <ul style="list-style-type: none"> Graphing $f(x) = ax^2$ Graphing $f(x) = ax^2 + bx$ Graphing $f(x) = ax^2 + bx + c$
Quarter 4 Mar 22 – May 27	Unit 8b: Graphing Quadratic Functions – Part 2	Unit 8b students will expand what they learned in unit 8a in order to identify and use the different forms of quadratic equations. From there students should be able to evaluate and compare characteristics of quadratic functions. <ul style="list-style-type: none"> Graphing $f(x) = a(x-h)^2 + k$ Transformations of graphs of quadratic equations Comparing linear, exponential, and quadratic functions
	Unit 9: Solving Quadratic Equations	Unit 9 students will learn how to solve quadratic equations using multiple methods. They will also learn how to solve nonlinear equations. <ul style="list-style-type: none"> Simplifying radicals Solving quadratic equations by graphing Solving quadratic equations using square roots Solving quadratic equations by completing the square Solving quadratic equations using the quadratic formula Quadratic equations real-life applications

	Unit 10: Statistics	Unit 10 concentrates on learning how to interpret sets of data in order to analyze given data. <ul style="list-style-type: none">• Measures of center and variation• Box-and-whisker plots• Shapes of distribution• Two-way tables
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Course Resources

Core Textbook:

Big Ideas - Students have online access through My.SarasotaCountySchools.net

Supplemental Resources:

Math Nation - Students log in through My.SarasotaCountySchools.net

[Khan Academy](#)

[FSA Portal](#)

For additional supplemental resources, please see your child's course syllabus.