CVA Algebra Syllabus

Class Description

This course is designed as the first course in a three-course series. Students will apply their algebraic and geometric reasoning skills to make sense of problems involving algebra, geometry, bivariate data, and statistics. This course focuses on algebraic, quantitative, geometric, graphical, and statistical reasoning. In this course, students will continue to enhance their algebraic reasoning skills when analyzing and applying a deep understanding of linear functions, sums and products of rational and irrational numbers, systems of linear inequalities, distance, midpoint, slope, area, perimeter, nonlinear equations and functions, quadratic expressions, equations and functions, exponential expressions, equations, and functions, and statistical reasoning.

This course has three sections: Algebra A is the first half of the class and includes Units 1-4. Algebra B is the second half of the class and includes Units 5-8. Algebra Y is the entire class and includes Units 1-8.

Click HERE for the CVA Algebra Y Class Schedule which outlines the Units, Lessons, and Assessments for this course.

Click HERE for the Algebra State standards.

Class Outline

Unit 1: Modeling Linear Functions

Students will construct and interpret arithmetic sequences as functions, algebraically and graphically, to model and explain real-life phenomena. They will use formal notation to represent linear functions and the key characteristics of graphs of linear functions, and informally compare linear and non-linear functions using parent graphs.

Unit 2: Analyzing Linear Inequalities

In this unit, students will extend their understanding of linear inequalities by solving linear inequalities in two variables. Students will also extend their understanding of systems of equations by learning to solve systems of linear inequalities through graphing to model real life phenomena.

Unit 3: Investigating Rational and Irrational Numbers

Students will investigate rational and irrational numbers and rewrite expressions involving square roots and cube roots. They should be able to use the operations of addition, subtraction, and multiplication, with radicals within expressions limited to square roots and cube roots. Additionally, they will be able to use and explain the properties of rational and irrational numbers. Through their work with rational and irrational numbers, students will come to understand that the operations of

numbers from particular number sets do not yield the solution being from the same number set.

Unit 4: Modeling and Analyzing Quadratic Functions

Students will analyze quadratic functions. Students will (1) investigate key features of graphs; (2) solve quadratic equations by taking square roots, factoring ($x^2 + bx + c$ AND $ax^2 + bx + c$), completing the square, and using the quadratic formula; (3) compare and contrast graphs in standard, vertex, and intercept forms. Students will only work with real number solutions.

Unit 5: Modeling and Analyzing Exponential Expressions and Equations

Students will interpret exponential expressions, one variable exponential equations in context, and understand parameters of two variable exponential equations. Students will be expected to engage with the Mathematical Modeling Framework to make sense of the nonlinear, exponential relationships in the context of real-life phenomena. Students should investigate the characteristics of exponential expressions and equations building on prior knowledge of linear and quadratic expressions and equations.

Unit 6: Analyzing Exponential Functions

In this unit, students will construct and analyze the graph of an exponential function to explain a contextual situation for which the graph serves as a model; compare exponential with linear and quadratic functions. Students will compare exponential with linear and quadratic functions. Building on the previous unit (Unit 5) of this course, the students will explore exponential functions.

Unit 7: Investigating Data

Students will collect, analyze, and interpret univariate quantitative data to answer statistical investigative questions that compare groups to solve real-life problems.
Students will represent bivariate data on a scatter plot and fit a function to the data to answer statistical questions and solve real-life problems. Students will answer statistical questions and solve real-world problems by analyzing and interpreting univariate and bivariate data.

Unit 8: Algebraic Connections to Geometric Concepts

Students will solve problems involving distance, midpoint, slope, area, and perimeter to model and explain real-life phenomena. Students have prior experiences with the concepts of approximating radicals, calculating slopes, and graphing lines. Students will now use Algebra to model Geometric ideas by solving problems involving distance, midpoint, slope, area, and perimeter. Characteristics of these terms will be used to classify quadrilaterals in the coordinate plane. Students will use properties of lines cut by a transversal along with the distance formula to explore characteristics of quadrilaterals. Students will use coordinates to prove simple geometric theorems using the properties of distance, slope, and midpoints. Students will use distance formula and problem solve to calculate area and perimeter of special parallelograms and triangles.

CVA Work Policy

- All classwork must be completed and submitted using the links in CTLS by the DUE DATE listed on the Class Schedule.
- Work should be completed in the order it is assigned on the Class Schedule.
- All work submitted on time will be graded within 48 hours.
- Assignments not submitted by the due date will be marked missing. Missing assignments are calculated as zeros in the coursework average. When students submit missing work, the assignment will be graded and calculated into the coursework average.

The CVA term ends prior to the end of the traditional school semester. The final date work will be accepted each term is posted on the CVA website (cobbvirtualacademy.org) and the Class Schedule.

Grading

Grades for this course are calculated based on category percentages as follows:

Category	Weight
Assessments	50%
Tests	40%
Final Exam/EOC	10%

CVA Exemption Incentive

To qualify for CVA's exemption incentive and exempt the Final Exam/lowest unit test or major assessment grade, CVA students must:

- Submit ALL assignments on OR before the due date
- Have an 85% coursework average or higher before the final exam
- Have no more than one academic integrity violation

Academic Integrity

Academic integrity is the cornerstone of learning at CVA and we take the integrity and authenticity of student work very seriously. When academic integrity is maintained, students will make decisions based on values that will prepare them to be productive, meaningful, and ethical citizens.

Students are required to abide by the CVA Academic Integrity Policy. Academic dishonesty in any form will not be tolerated. The CVA Academic Integrity Policy outlines the consequences if students fail to maintain academic integrity in their course. For additional information, the CVA Academic Integrity Policy is posted on the CVA website.

Consequence	Occurrence			
	1st	2nd	3rd	4th
Parent contact by teacher	✓	✓	✓	✓
Resubmit work for full credit	✓			
Resubmit work for half credit		✓		
Automatic Zero			✓	✓
Parent contact by CVA Administration			✓	✓
Mandated proctored exam or course work				✓
Local school is notified of Academic Integrity violation		✓	✓	✓
Other as designated by CVA or local school administration	✓	✓	✓	✓

General Information

- The Cobb Teaching and Learning System (CTLS) is the platform used to deliver Cobb Virtual Academy classes.
- Students must earn 100% on the Student Orientation Quiz located inside each CVA Digital Classroom before they begin their Student Coursework.
- All coursework must be submitted through CTLS.
- All CCSD students have access to Microsoft 365 applications and must submit assignments in the requested format.
- Students in the A section of this course will take an online final exam during the window of time published on the CVA website and the Class Schedule.
- Students in the B and Y sections of this course will take an End of Course Test (GA Milestone) which is a state-mandated test. This test will be administered at the local school.

Course Specific Information

- Assessments (assignments): After reviewing each lesson, students will complete an assessment online. Each assessment has approximately 10-15 questions which includes constructed response questions.
- Tests: Students should carefully review the feedback on graded items and be sure to understand the material prior to beginning the Unit Test.

Technology Requirements

CTLS is geo-restricted to the United States.

- A modern PC or Mac Computer
    - Lightweight or mobile devices such as Chromebooks, iPads, Android tablets, or smartphones **may not** be compatible with many of our courses.
    - Windows or Mac based computer
- Access to Microsoft 365
- Internet access

CVA Expectations

Student

- Maintain consistent access to a computer and internet
- Login to the course daily and review the announcements
- Adhere to the deadlines listed on the Class Schedule
- Read and promptly respond to teacher communication
- Contact the teacher with questions
- Manage your time wisely

Teacher

- Welcome Phone Call in the first two weeks
- 24 – 48-hour turnaround on all communication
- 24 – 48-hour turnaround on grading for items submitted by the due date
- Provide relevant feedback on assignments
- Be accessible via email and phone or text during published hours
- Provide two or more live sessions per term

Remind

CVA students and parents are automatically enrolled in their CVA teacher's Remind class based on the phone numbers provided during registration. If a parent and student provide the same cell phone number, they will not sync to Remind and will have to join the class manually using the join code posted on the Teacher Information page of their course.

Student Support

A student's first source for support is their CVA teacher. However, additional support is available. The **CVA Learning Center** is staffed with facilitators and is available both **in person** and **virtually**.

Facilitators can assist students with getting started, class navigation, assignment instructions, submitting work, technical issues, and strategies for online success.

The in-person Learning Center is on the Cobb Horizon High School campus at 1765 The Exchange Atlanta, GA.

All CVA students are enrolled in the Student Support digital classroom which provides access to the Virtual Learning Center (VLC). Students use the CTLS chat feature to send a message to the Student Support Team during the hours it is open.

Live Sessions

Your teacher will post live session information to the Class Board.