Course Name: Honors Algebra 1
School Year: 2021-2022

Course Purpose and Relevance:

In Algebra I, students will build on the knowledge and skills for mathematics from the standards for Grades 6-8, which provide a foundation in linear relationships, number and operations, and proportionality. Students will study linear, quadratic, and exponential functions and their related transformations, equations, and associated solutions. Students will connect functions and their associated solutions in both mathematical and real-world situations. Students will use technology to collect and explore data and analyze statistical relationships. In addition, students will study polynomials of degree one and two, radical expressions, sequences, and laws of exponents. Students will generate and solve linear systems with two equations and two variables and will create new functions through transformations.

The **process standards** weave the other knowledge and skills together so that students may be successful problem solvers and use mathematics efficiently and effectively in daily life. When possible, students will apply mathematics to problems arising in everyday life, society, and the workplace. Students will use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution. Students will select appropriate tools such as real objects, manipulatives, algorithms, paper and pencil, and technology and techniques such as mental math, estimation, number sense, and generalization and abstraction to solve problems. Students will effectively communicate mathematical ideas, reasoning, and their implications using multiple representations such as symbols, diagrams, graphs, computer programs, and language. Students will use mathematical relationships to generate solutions and make connections and predictions. Students will analyze mathematical relationships to connect and communicate mathematical ideas. Students will display, explain, or justify mathematical ideas and arguments using precise mathematical language in written or oral communication.

Available Support for Student Learning:

Refer to the teacher's Course Syllabus for resources and course specific opportunities. The adopted textbook for Algebra 1 is McGraw Hill Texas Algebra 1. Student textbook and/or digital version are available through the CCISD Student Portal.

Links to Course TEKS and RESOURCES FOR PARENTS on TEA website:

Texas Knowledge and Skills for Algebra 1
Resources for Parents

Overview of Student Outcomes:

Algebra 1 TEKS

- The student uses properties of linear functions to write and represent in multiple ways, with and without technology, linear equations, inequalities, and systems of equations.
- The student uses concepts of proportionality to explore, develop, and communicate mathematical relationships.
- The student uses graphs of linear functions, key features, and related transformations to represent in multiple ways and solve, with and without technology, equations, inequalities, and systems of equations.
- The student connects verbal, numeric, graphic, and symbolic representations of relationships, including equations and inequalities.
- The student formulates statistical relationships and evaluates their reasonableness based on real world data.
- The student solves, with and without technology, linear equations and evaluate the reasonableness of their solutions.
- The student uses properties of quadratic functions to write and represent in multiple ways, with and without technology, quadratic equations
- The student uses graphs of quadratic functions and their related transformations to represent in multiple ways and determine, with and without technology, the solutions to equations.
- The student solves, with and without technology, quadratic equations and evaluate the reasonableness of their solutions and formulates statistical relationships and evaluates their reasonableness based on real-world data.
- The student uses properties of exponential functions and their related transformations to write, graph, and represent in multiple ways exponential equations and evaluate, with and without technology, the reasonableness of their solutions and formulates statistical relationships and evaluates their reasonableness based on real-world data.
- The student rewrites in equivalent forms and perform operations on polynomial expressions.
- The student rewrites algebraic expressions into equivalent forms.
- The student writes, solves, analyzes, and evaluates equations, relations, and functions.

Differentiation Curriculum for Honors Algebra 1

Students in PreAp Algebra 1 receive instruction for all the TEKS for Algebra 1 as well as additional topics that align to future PreAp and AP courses. The additional topics are listed as PAP extensions on the Year at a Glance page. In addition to the extension topics, teachers may additionally differentiate the curriculum by teaching at a faster pace and by providing opportunities for students to learn at a greater depth and complexity.

First Grading Period

Unit 1: One Variable Linear Equations and Inequalities

Unit 2: Linear Functions

Unit 3: Linear Equations with Two Variables

Second Grading Period

Unit 3: Linear Equations with Two Variables

Unit 4: Systems of Linear Equations

Unit 5: Linear Inequalities

Semester Review and District Exam

Third Grading Period

Unit 6: Exponents and Polynomials

Unit 7: Quadratic Equations

Unit 8: Quadratic Functions

Fourth Grading Period

Unit 9: Exponential Functions

STAAR Review and Algebra 1 STAAR End of Course Exam

Unit 10: Absolute Value and Solving Radical Equations