

Corsica Stickney Curriculum Map

Subject: Algebra 1 Grade: 9th Unit 5 Module 11 lessons 11.1, 11.2, 11.3, 11.4 Module 12 lessons 12.1, 12.2, 12.3 Module 13 lessons 13.1, 13.2, 13.3, 13.4	Teacher: Mr. Jason Broughton Duration: December
Summary of unit: students will complete a Math in Careers task by writing and solving a system of linear equations based on a personal shopper's work. Critical skills include representing real-world situations as algebraic equations and solving systems of linear equations.	
Stage 1 – Desired Results	
Standards: A-REI.C.6 Solve systems of linear equations... approximately (e.g., with graphs)... A-REI.C.6 Solve systems of linear equations exactly... focusing on pairs of linear equations in two variables. A-REI.C.5 Prove that... replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions A-CED.A.3 Represent constraints by... systems of equations... and interpret solutions as viable or nonviable options in a modeling context. A-REI.D.12 ...graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes. F-IF.C.7b Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. A-REI.B.3 Solve linear equations... in one variable... Also	Essential Questions: How can you find the solution of a system of linear equations by graphing? How can you solve a system of linear equations by using substitution? How can you solve a system of linear equations by adding and subtracting? How do you use systems of linear equations to model and solve real-world problems? How do you solve a system of linear inequalities? How can you use systems of linear equations or inequalities to model and solve contextual problems? How are piecewise-defined functions different from other functions? What are the effects of parameter changes on the graph of $y = a x - h + k$? How can you solve an absolute value equation? What are two ways to solve an absolute value inequality?

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Language objective	Mathematical practices	Integrate mathematical practice
Use graphs to explain the difference between systems of equations that are inconsistent, consistent and dependent, and consistent and independent Explain to a partner how to solve a system of linear equations by substitution. Explain to a partner what eliminating a variable in a system of linear equations means. Explain to a partner how you know when to solve a system of linear equations by multiplying first. Describe a real-world situation that can be modeled by a system of two linear equations, and then write the equations. Explain to a partner how to determine whether a point is a solution to a system of inequalities. Describe a real-world situation that can be modeled by a system of two linear inequalities, and then write the inequalities. Describe a real-world situation that can be modeled by a piecewise function. Describe transformations of graphs, including	MP.5 Using Tools MP.6 Precision MP.2 Reasoning MP.4 Modeling	MP.5, which calls for students to “use tools.” To get a correct solution by graphing, students must use graph paper and a straightedge to accurately draw both lines in the system. Using a hand-drawn grid or trying to graph the lines without a guide to make them straight will lead to errors. Students can also use a graphing calculator to solve systems by graphing. MP.6, which asks students to “attend to precision.” In this lesson, students need to pay close attention to the domains used for piecewise functions in order to graph the functions accurately. In addition, students must construct graphs carefully to make sure the graphs accurately represent the data. MP.2 Ask students how to determine whether each equation in a system must be multiplied by a different constant in order to solve by elimination. Students should understand that the first step is to check whether the coefficient of a variable in one equation is a multiple of the coefficient of the same variable in the other equation. If not, they must multiply each equation by a different constant. The constants must be chosen so that in the two resulting equations, the coefficients for one variable are opposites or the same. MP.4, which calls for students to use “modeling.” Students learn to graph systems of linear inequalities, including both systems with intersecting boundary lines and systems with

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translations, vertical stretches, and vertical compressions or shrinks		parallel boundary lines. Students also learn to interpret the graphs to determine which points are solutions and which points are not solutions for a system of linear inequalities.
Explain to a partner why solutions to a variety of absolute value equations make sense and contain more than one solution, one solution, or no solution.		
Match absolute value equations and inequalities with their graphs, explaining and justifying reasoning.		
Stage 2 – Assessment Evidence		
Performance Tasks: Homework quizzes, worksheet, Tests.	Unit Pre-Assessment: Assign ready-made or customized practice tests to prepare students for high-stakes tests	
Stage 3 – Learning Plan		
Learning Activities: procedures/topics Reading and discussing lesson with class. Giving students examples to be completed in class. Students taking notes and using notes to complete homework assignments.		
Lesson Description		
MODULE 11 Solving Systems of Linear Equation Lesson 11.1 Solving Linear Systems by Graphing Lesson 11.2 Solving Linear Systems by Substitution Lesson 11.3 Solving Linear Systems by Adding or Subtracting Lesson 11.4 Solving Linear Systems by Multiplying First		
MODULE 12 Modeling with Linear Systems Lesson 12.1 Creating Systems of Linear Equations Lesson 12.2 Graphing Systems of Linear Inequalities Lesson 12.3 Modeling with Linear Systems		
MODULE 13 Piecewise-Defined Functions		

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Lesson 13.1 Understanding Piecewise-Defined Functions

Lesson 13.2 Absolute Value Functions and Transformations

Lesson 13.3 Solving Absolute Value Equations

Lesson 13.4 Solving Absolute Value Inequalities