UTeach
THE UNIVERSITY OF TEXAS AT TYLER

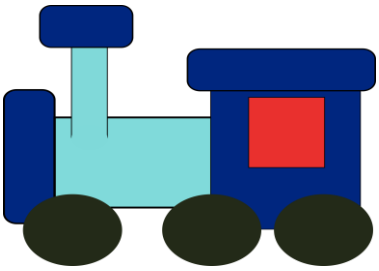
Lesson Plans Week of: February 13- February 17
NAME/CLASS: Algebra I

	Monday Graphing systems Part 2	Tuesday Solving systems with calculator	Wednesday Solving systems	Thursday Solving systems	Friday Linear functions Review
Academic Purpose:	In mathematics a visual representation is sometimes easier to see. Modeling systems graphically you may notice its easy to see the unit price of an item purchased. You could also see graphically how long it takes for two cars moving toward each other at different speeds to reach the same point. Another example is finding out if buying one shirt or 10 shirts would be a better deal. These are just some ways at which graphing systems of equations and analyzing its data is helpful in everyday life.	There is no TEKS for solving system with the calculator. My cooperative teacher wants the students to learn how to input systems into the calculator and look at their graphs to find solutions. (The Instructions to the TI84 will be in DBx)	You are confronted with mathematical systems almost every day, but you may not notice them because they are so familiar. Think about the following situations: amount of time it will take to get from home to school, figuring out the unit price of something you bought, mixing different solutions to see how they interact with other solutions. All of these can be represented as mathematical systems.	You are confronted with mathematical systems almost every day, but you may not notice them because they are so familiar. Think about the following situations: amount of time it will take to get from home to school, figuring out the unit price of something you bought, how mixing different solutions interact with other solutions. All of these can be represented as mathematical systems. And, in fact, you use mathematical thinking as you consider these situations on a day-to-day basis.	*Linear equations are used to solve problems involving distance, speed and time, especially in transportation and travel***.** Linear functions can also be used when budgeting for transportation and travel.
TEKS:	(1) Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: (D) communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate; (3) Linear functions, equations, and inequalities. The student applies the mathematical process standards when using 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 is expected to:	There is no TEKS for solving system with the calculator. My cooperative teacher wants the students to learn how to input systems into the calculator and look at their graphs to find solutions. (The Instructions to the TI84 will be located in DBx)	(1) Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: (B) 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; (5) Linear functions, equations, and inequalities. The student applies the mathematical process standards to solve, with and without technology, linear equations and evaluate the reasonableness of their solutions. The student is expected to: (C) solve systems of two linear equations with two variables for mathematical and real-world problems.	(1) Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: (B) 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; (5) Linear functions, equations, and inequalities. The student applies the mathematical process standards to solve, with and without technology, linear equations and evaluate the reasonableness of their solutions. The student is expected to: (C) solve systems of two linear equations with two variables for mathematical and real-world problems.	(1) Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: (A) apply mathematics to problems arising in everyday life, society, and the workplace (2) Linear functions, equations, and inequalities. The student applies the mathematical process standards when using properties of linear functions to write and represent in multiple ways, with and without technology, linear equations, inequalities, and systems of equations. The student is expected to: (A) determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities; (B) write linear equations in two variables in various forms, including $y = mx + b$, $Ax + By = C$, and $y - y_1 = m(x - x_1)$, given one point and the slope and given two points; (C) write linear equations in two variables given a table of values, a graph, and a verba description;

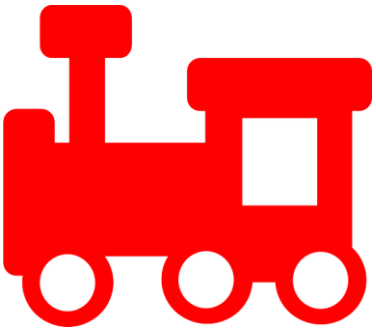
	(F) graph systems of two linear equations in two variables on the coordinate plane and determine the solutions if they exist;				
ELPS:	c2C: Learn new language heard in classroom interactions and instruction c2E: Use visual, contextual linguistic support to confirm and enhance understanding		c3D: Speak using grade level content area vocabulary in context c3E: Share in cooperative groups	c3H: Narrate, describe and explain c2D: Monitor understanding and seek clarification	c3F: Ask and give information using high-frequency and content area vocabulary c3G: Express opinions, ideas and feelings
Objective:	**SWBAT** • Solve systems of linear equations by graphing. • Describe graphically a system with no solution. • Describe graphically a system with infinite solutions	**SWBAT** • Input linear function into a calculator • Interrupt graphically the solution to a system using a calculator.	**SWBAT** • Solve a system of equations using one of three methods (by substitution, subtraction, or using a graphing calculator) • Recognize, by inspection, whether the solution to pair of equations will be no solution, one unique solution, or infinite solutions	**SWBAT** • Determine whether an ordered pair is a solution of a system of inequalities. • Interrupt real life situations using linear equations • solve equations base off real life situations.	**SWBAT** • Calculate the slope of a line using a graph, an equation, two points or a set of data points. • Use the slope to differentiate between lines that are horizontal or vertical.
Engage: ***Explore:*** ***Explain:*** ***Elaborate:***	**Engage:** Remind students of engage from Friday. **Explore:** Show large graph where Each team graphed their data from Fridays experiment. Students will talk about the similarities and differences of the two graphs **Explain** (Introduction to Systems in DBx) **Elaborate** (Graphing systems 2) Students will get into selected groups of 4 and work on worksheet In DBx	**Evaluate** (Graphing system quiz) **Explain** (Setting up systems from word problems and graphing systems with a calculator) **Elaborate** (Solve systems from word problems and solving systems with a Calculator)	**Evaluate** (Graphing systems with a calculator quiz) **Engage:** Train Problem **Explore** Mystery in a bag in groups of four. (Instructions in **DBx**) **Explain:** Writing and solving system notes. **Elaborate:** Students will get into selected groups of two and complete activity (What's my price **DBx**) they will try to find the unit price of two items given the total amount of items purchased and the total cost.	**Elaborate:** Writing and solving systems worksheet**s DBx** **Evaluate**: Exit Ticket problem(Students will submit two made up linear equations that is either a unique solution, no solution, or infinite solutions.)	**Elaborate:** The class is divided into 5 pairs and each pair will be assigned an equation from the previous day's homework in which they created T-tables for a variety of equations. Students will determine enough solutions for their equation to complete "Human Graphing". Groups will take turns graphing their equation using the coordinate system in the hallway. The group will assign an ordered pair to each of the remaining students. The group in charge will make sure each "point" is plotted correctly. After the plotting process is complete, the class will discuss the slope of the line on the graph and the y-intercept. This process is repeated again until all groups have had the opportunity to graph their equations. Students will them work on Linear equation review in pairs for the remaining of the period.

Evaluate:					
Differentiation:	**Modification** Student will only do odd problems. **Extension** Think of two linear equations that would have a unique solution. **Accommodation** Students will be given a copy of the vocabulary and will be given a copy of the gestures.	**Modification** **Extension** **Accommodation**	**Modification** Students will only do odd problems **Extension** Students will be given two equation not in the y=mx+b format and will be asked to solve them. **Accommodation** Students will be given a copy of the vocabulary and will be given a copy of the gestures.	**Modification** Student will only do odd problems **Extension** Students will be given two equation not in the y=mx+b format and will be asked to graph them. **Accommodation** Students will be given a copy of the vocabulary and a highlighter to highlight key words and friends.	**Modification:** Cooperative teacher will be pulling student aside for small group instructions **Extension** Come up with a linear equation that represents a real-life situation that they choose**.** **Accommodation:** Copy of gestures and hand rules will be giving to students. Students will also receiv a formula chart with basic linear rules.
Resources:	Troup Middle school Math Log	Mrs. Dowdy wants the students to learn how to graph and solve a system with a calculator (TI84 Calculator Instructions)	Pinterest TeacherspayTeachers http://mrallens.wikispaces.com/Unit+5+-+Systems+of+Equations	TeacherspayTeachers	Pinterest
Technology:	Smart Board	Smart Board	Smart Board	Smart Board Computer	Smart Board

Engage for Wednesday



Train A



Train B

Train A is Moving 100 miles per hour and left tyler at 7:25 am going to Dallas. Train B is moving 75 miles per hour and left Tyler at 7:00 am going to Dallas. When will these trains be at the same place at the same time.

-Students will make a guess on a small piece of paper and fold it up.