Name _____ Date _____

Lesson 24: Introduction to Simultaneous Equations

Exit Ticket

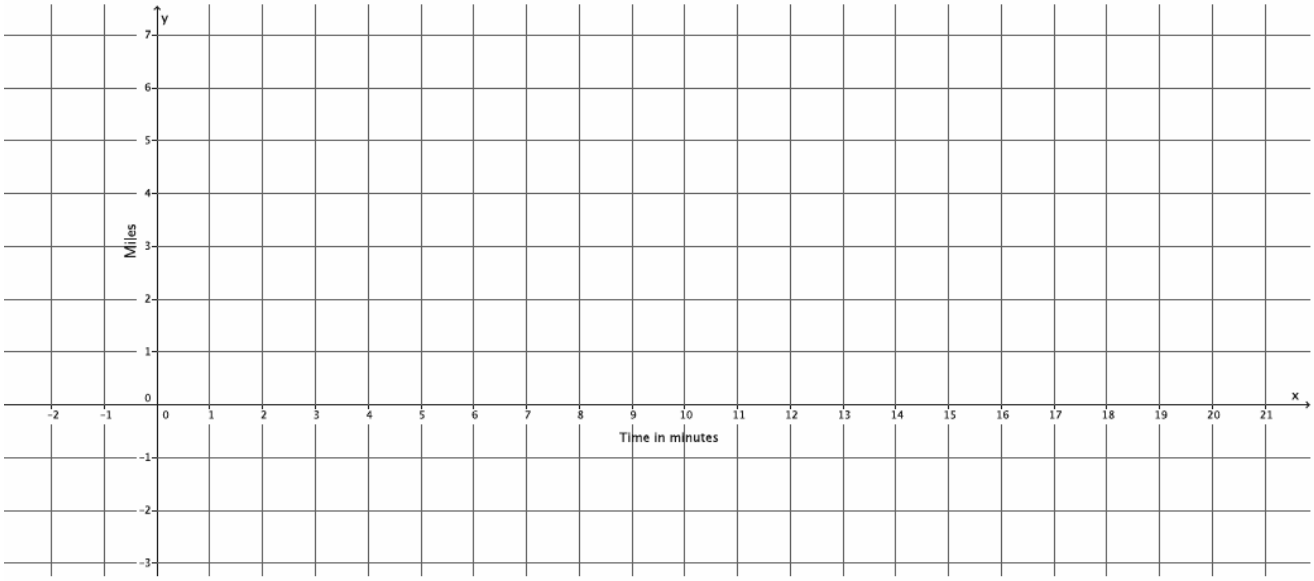
Darnell and Hector ride their bikes at constant speeds. Darnell leaves Hector's house to bike home. He can bike the 8 miles in 32 minutes. Five minutes after Darnell leaves, Hector realizes that Darnell left his phone. Hector rides to catch up. He can ride to Darnell's house in 24 minutes. Assuming they bike the same path, will Hector catch up to Darnell before he gets home?

a. Write the linear equation that represents Darnell's constant speed.

b. Write the linear equation that represents Hector's constant speed. Make sure to take into account that Hector left after Darnell.

c. Write the system of linear equations that represents this situation.

d. Sketch the graphs of the two equations.



e. Will Hector catch up to Darnell before he gets home? If so, approximately when?

f. At approximately what point do the graphs of the lines intersect?

Name _____ Date _____

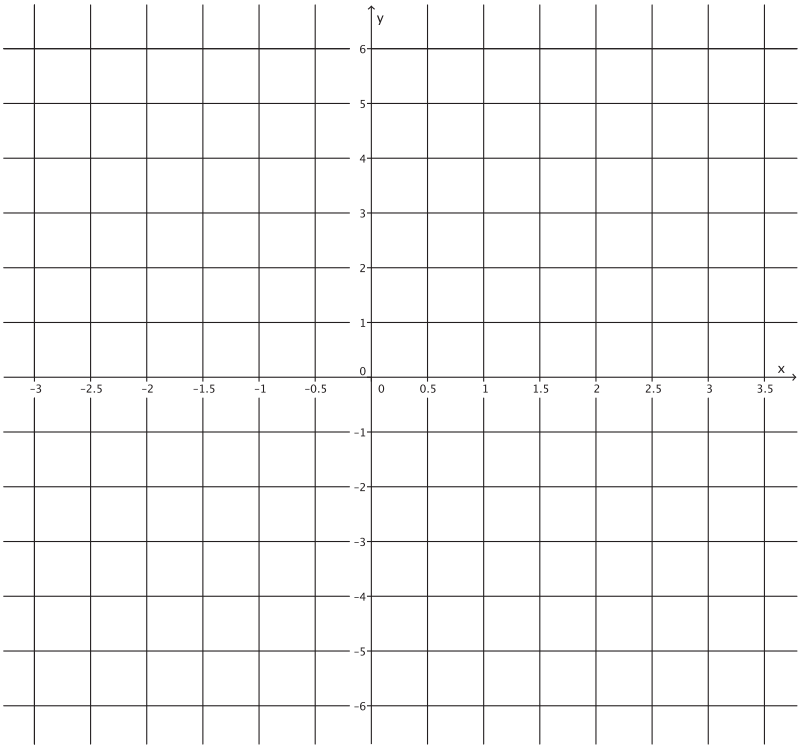
Lesson 25: Geometric Interpretation of the Solutions of a Linear System

Exit Ticket

Sketch the graphs of the linear system on a coordinate plane: $\begin{cases} 2x - y = -1 \\ y = 5x - 5 \end{cases}$.

a. Name the ordered pair where the graphs of the two linear equations intersect.

b. Verify that the ordered pair named in part (a) is a solution to $2x - y = -1$.



c. Verify that the ordered pair named in part (a) is a solution to $y = 5x - 5$.

Name _____ Date _____

Lesson 26: Characterization of Parallel Lines

Exit Ticket

Does each system of linear equations have a solution? Explain your answer.

1. $\begin{cases} y = \frac{5}{4}x - 3 \\ y + 2 = \frac{5}{4}x \end{cases}$

2. $\begin{cases} y = \frac{2}{3}x - 5 \\ 4x - 8y = 11 \end{cases}$

3. $\begin{cases} \frac{1}{3}x + y = 8 \\ x + 3y = 12 \end{cases}$

Name _____ Date _____

Lesson 27: Nature of Solutions of a System of Linear Equations

Exit Ticket

Determine the nature of the solution to each system of linear equations. If the system has a solution, then find it without graphing.

1. $\begin{cases} y = \frac{1}{2}x + \frac{5}{2} \\ x - 2y = 7 \end{cases}$

2. $\begin{cases} y = \frac{2}{3}x + 4 \\ 2y + \frac{1}{2}x = 2 \end{cases}$

3. $\begin{cases} y = 3x - 2 \\ -3x + y = -2 \end{cases}$

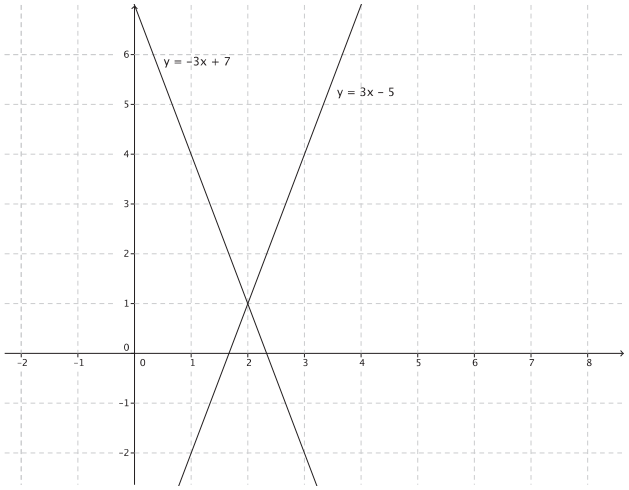
Name _____ Date _____

Lesson 28: Another Computational Method of Solving a Linear System

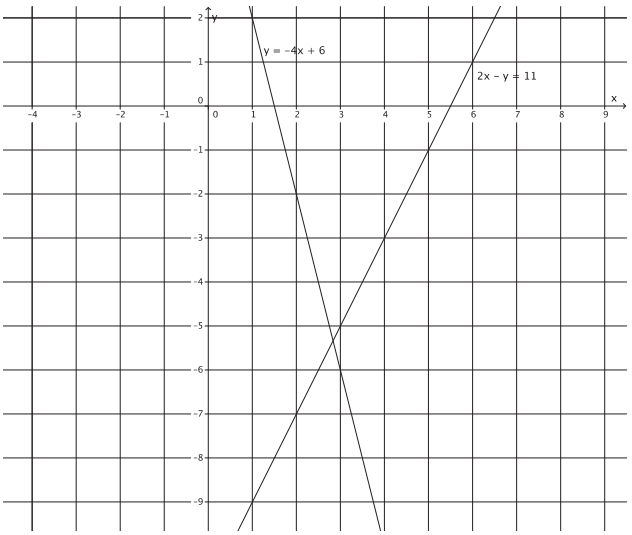
Exit Ticket

Determine the solution, if it exists, for each system of linear equations. Verify your solution on the coordinate plane.

1. $\begin{cases} y = 3x - 5 \\ y = -3x + 7 \end{cases}$



2. $\begin{cases} y = -4x + 6 \\ 2x - y = 11 \end{cases}$



Name _____ Date _____

Lesson 29: Word Problems

Exit Ticket

1. Small boxes contain DVDs, and large boxes contain one gaming machine. Three boxes of gaming machines and a box of DVDs weigh 48 pounds. Three boxes of gaming machines and five boxes of DVDs weigh 72 pounds. How much does each box weigh?

2. A language arts test is worth 100 points. There is a total of 26 questions. There are spelling word questions that are worth 2 points each and vocabulary word questions worth 5 points each. How many of each type of question are there?

Name _____ Date _____

Lesson 30: Conversion Between Celsius and Fahrenheit

Exit Ticket

Use the equation developed in class to answer the following questions:

1. How many degrees Fahrenheit is $11°C$?

2. How many degrees Fahrenheit is $-3°C$?

3. Graph the equation developed in class, and use it to confirm your results from Problems 1 and 2.