

Lesson Context

BIG PICTURE of this UNIT:	<ul style="list-style-type: none"> • mastery with algebraic skills to be used in our work with linear functions and equations. • understanding various properties of basic functions and linear equations • how do manipulate equations with more then one variable? 		
CONTEXT of this LESSON:	<p>Where we've been</p> <p>We have worked with slope and some linear ideas and have now finished (hopefully) an investigation linking the equation/slope and y intercepts to the graphs of lines.</p>	<p>Where we are</p> <p>Observing changes to the graph as m and b change and writing equations of lines to create a design.</p>	<p>Where we are heading</p> <p>The continual development of linear language and fluency. We eventually will tag on one more linear form... but not too soon!</p>

Lesson Objectives:

- Task 1:** Desmos Activity
- Task 2:** Basic Closure
- Task 3:** $y = mx + b$ Connection
- Task 4:** Designer Designer w/ Tech
- Task 5:** Advanced Closure

Task 1: Observing Changes to “m” and “b”.

Desmos Activity

Go to student.desmos.com

Click the button “Sign in”

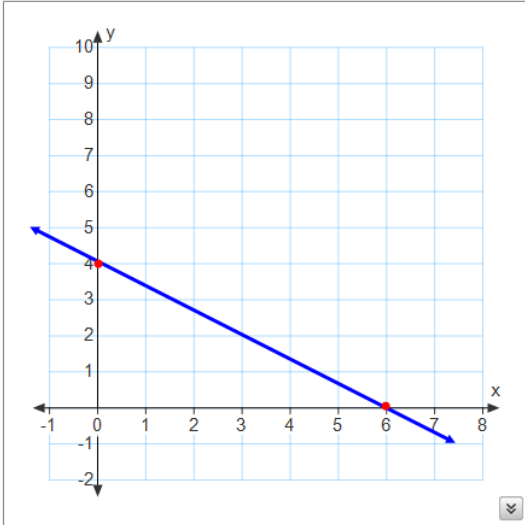
Then click the button “g+ Sign in with Google”

Enter the class code: 43ft

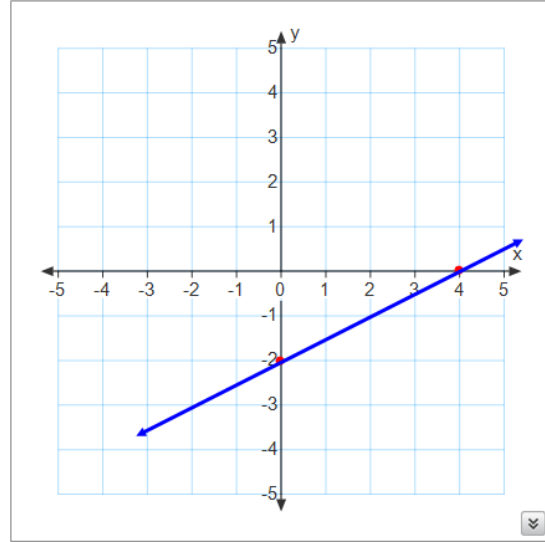
Lesson 3.3 The Equation of a Line $y=mx+b$ | Unit 3 – Linear Functions

Task 2: Basic Closure of Desmos Activity

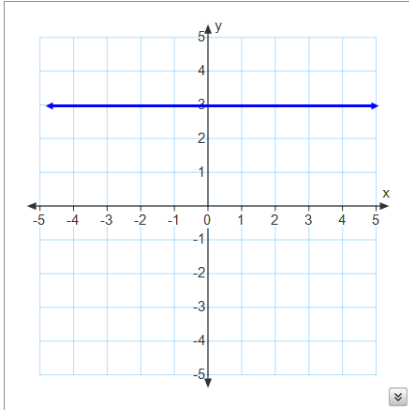
Write the equation of the line given the information for each problem.



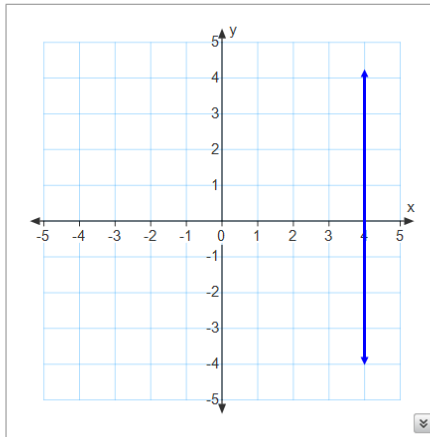
Equation: _____



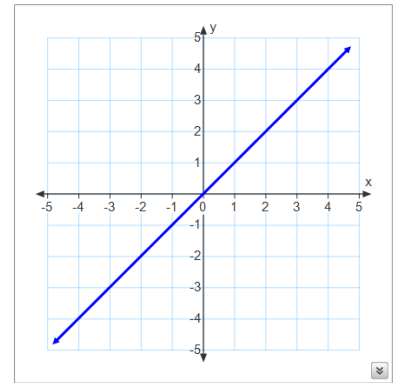
Equation: _____



Equation: _____



Equation: _____



Equation: _____

Slope: 3

Y -intercept: -10

Equation: _____

Slope: $-\frac{2}{11}$

Y -intercept: 7

Equation: _____

Slope: $\frac{4}{9}$

Y -intercept: 5

Equation: _____

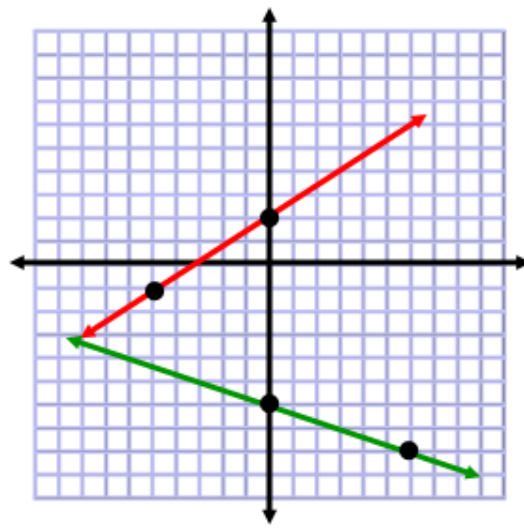
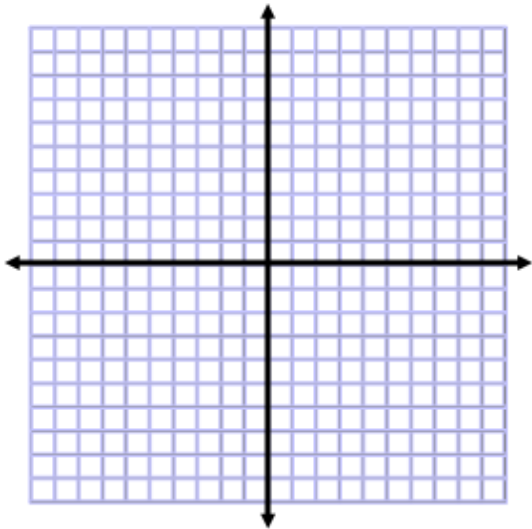
Task 3: $y = mx + b$ Connection

Graph the two equations below on the axis provided! Then, write the equations of the two lines in SLOPE INTERCEPT FORM.

$$y = -\frac{2}{3}x + 15 \quad y - 5x = -7$$

$$y = \underline{\hspace{2cm}}$$

$$y = \underline{\hspace{2cm}}$$



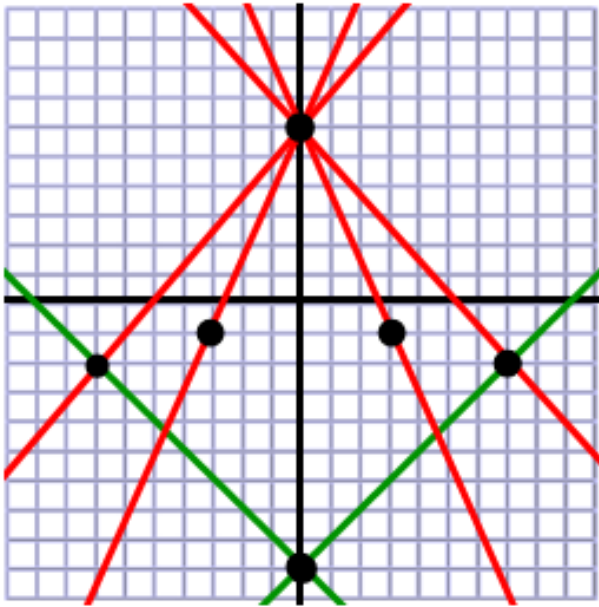
Lesson 3.3 The Equation of a Line $y=mx+b$ | Unit 3 – Linear Functions

Re-create these pictures on the TI-84 Calculator and check your work. When you have both the drawings and the graphing calculator confirmation call me over for a signature.

Task 4: Designer Designer w/ Tech

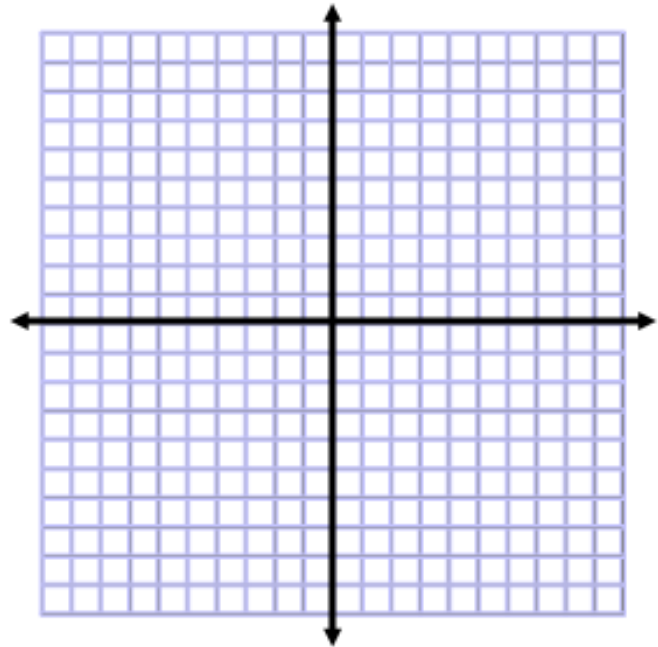
Below is a design that the Amazing Mr. Smith created. I want you to find the equations of this design. And reproduce the same image on a graphing calculator. Then on the right side, create a design of your own using equations of your own. You need to have at least 4 equations.

My Design



- $y=$ _____
- $y=$ _____
- $y=$ _____
- $y=$ _____
- $y=$ _____
- $y=$ _____

Your Design



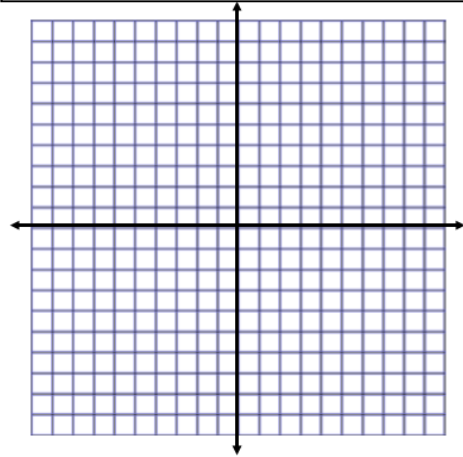
- $y=$ _____
- $y=$ _____
- $y=$ _____
- $y=$ _____
- $y=$ _____
- $y=$ _____

Task 5: Advanced Closure

Write an equation in slope intercept form of the line that passes through the given point and has the given slope m . Then Graph it.

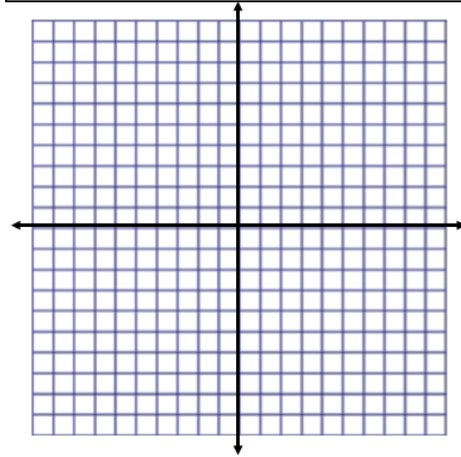
$m = 3/4$
Passes through $(-3, -1)$

Equation: _____



$m = 1$
Passes through $(-2, 1)$

Equation: _____



$m = -7/3$
Passes through $(-2, -6)$

Equation: _____

