Unit: Linear Relationships
Student Handout 5

Name _____

Date _____Pd_____

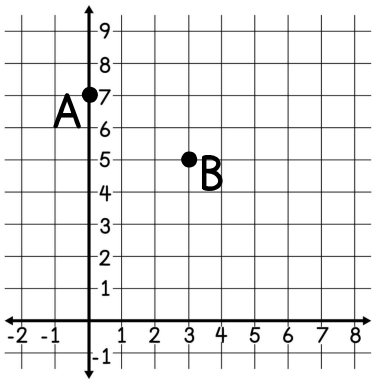
GRAPHING LINEAR EQUATIONS

Sara plots points A and B to graph a linear relationship.

a. Draw a right triangle and determine the slope.

b. Is the slope positive or negative and how do you know?

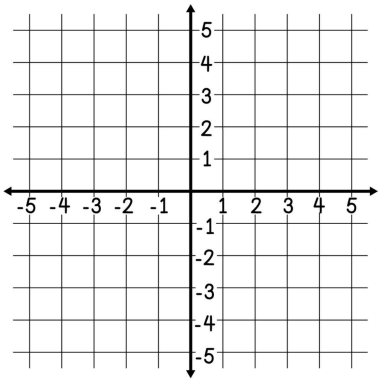
c. Use the slope to plot another point on the line.



GRAPHING A LINE

- Identify the _____ and _____.
- Plot the _____ on the graph.
- Determine the _____ of the line using the slope.
- Find the next point by counting _____ over _____.

Ex. $y = \frac{1}{2}x + 1$



1. Use each linear equation to determine the type of slope and direction of the line from left to right.

a. $y = 3x + 17$	b. $y = -6x + 8$	c. $y = -5$	d. $x = 4$
type of slope: _____	type of slope: _____	type of slope: _____	type of slope: _____
direction: _____	direction: _____	direction: _____	direction: _____

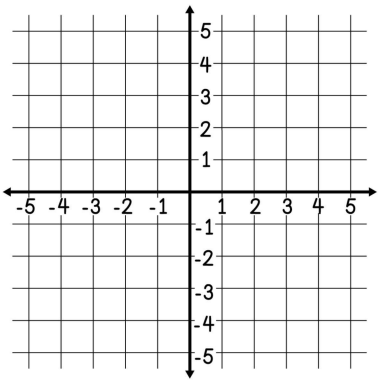
For each equation, record the slope, y-intercept, and the direction of the line from left to right. Then create a graph of the equation.

2. $y = \frac{1}{3}x - 2$

m: _____

b: _____

direction: _____

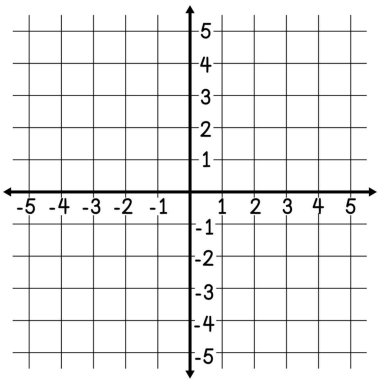


3. $y = -2x + 4$

m: _____

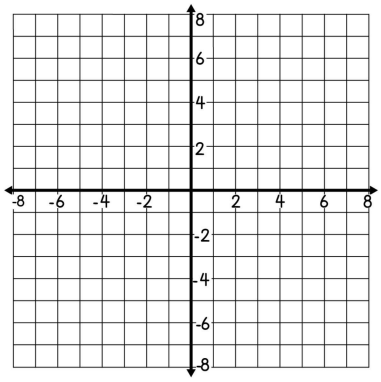
b: _____

direction: _____

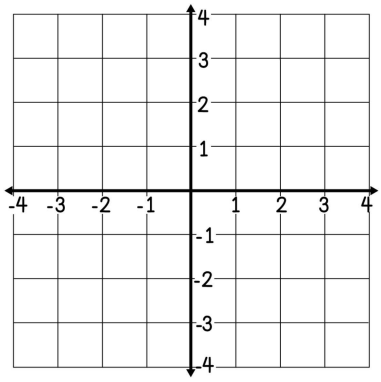


Graph each linear equation in the space provided.

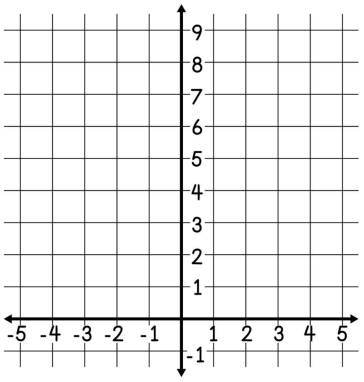
4. $y = 3x - 4$



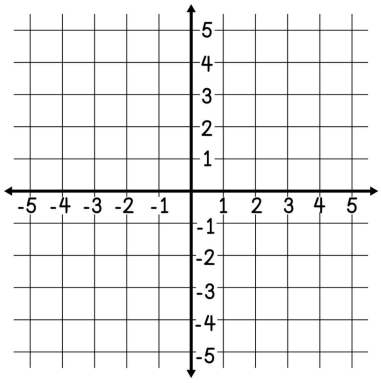
5. $y = -x$



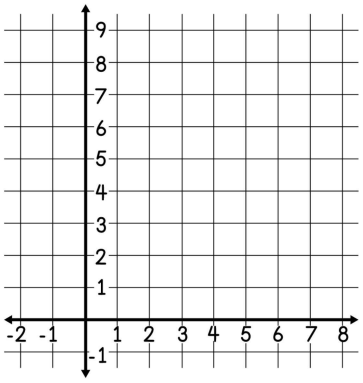
6. $y = 3$



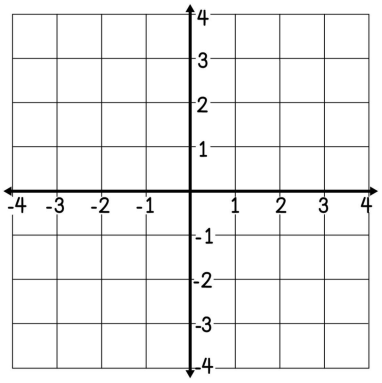
7. $y = -\frac{3}{2}x + 1$



8. $y = \frac{1}{4}x + 2$



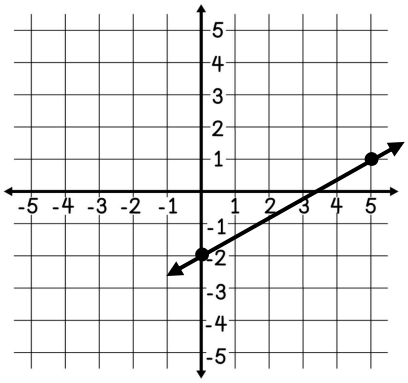
9. $x = -2$



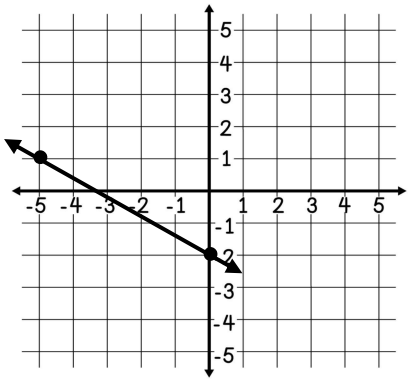
Apply your knowledge of graphing linear equations to answer the question below.

10. Ms. Thompson asked her students to graph the equation $y = \frac{3}{5}x - 2$. The work of three students is shown below. Circle the name of the student that correctly graphed the linear equation, and identify the mistakes made by the other two students.

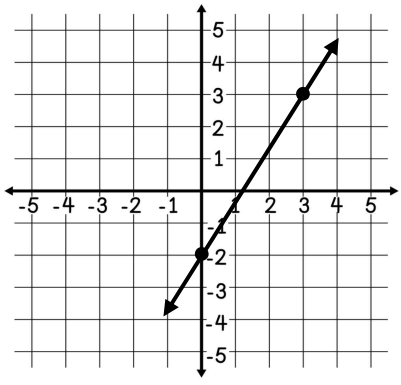
SHONDRA



FRANKIE



DANTE



Unit: Linear Relationships
Homework 5

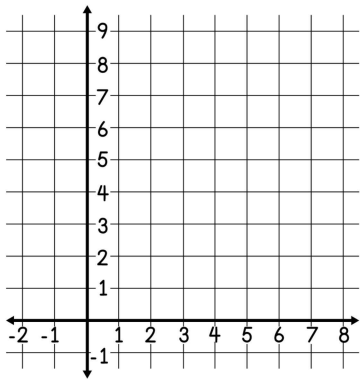
Name _____

Date _____Pd_____

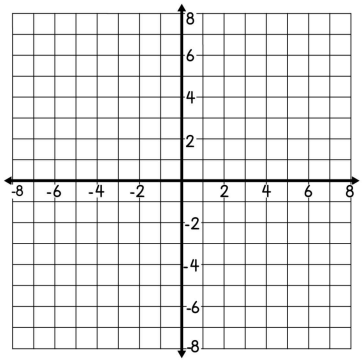
GRAPHING LINEAR EQUATIONS

On questions 1-9, graph each linear equation in the space provided.

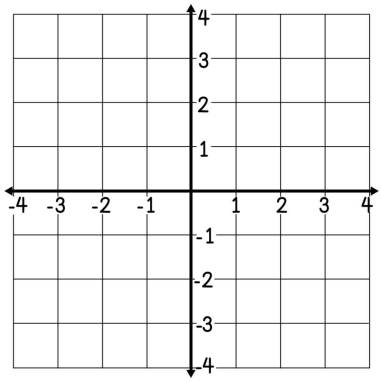
1. $y = 3x + 1$



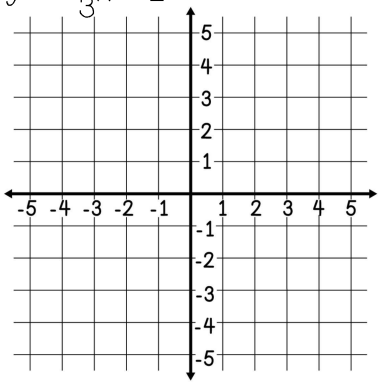
2. $y = -5x - 4$



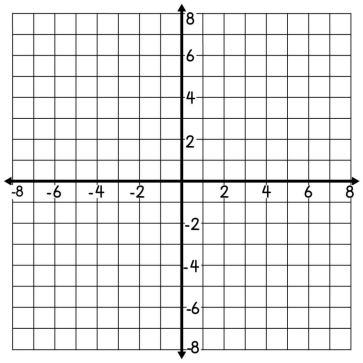
3. $y = -2x$



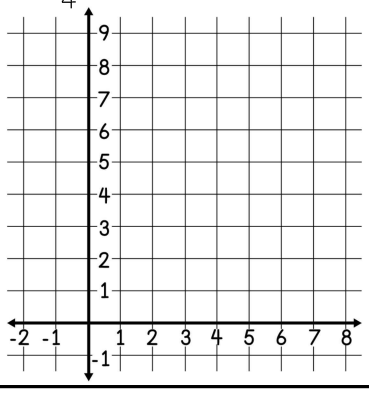
4. $y = -\frac{1}{3}x - 2$



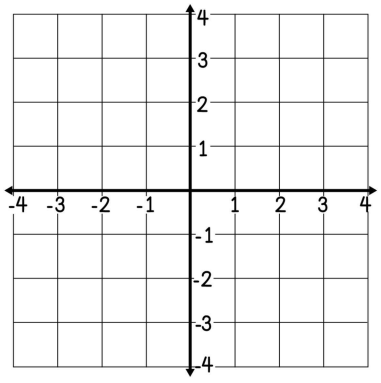
5. $y = -\frac{2}{5}x - 5$



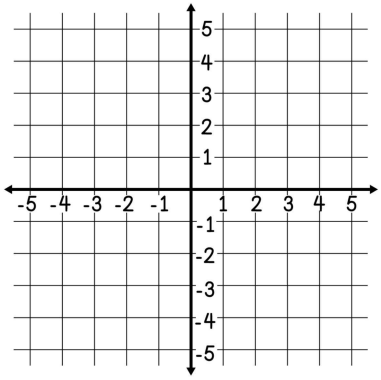
6. $y = \frac{3}{4}x + 3$



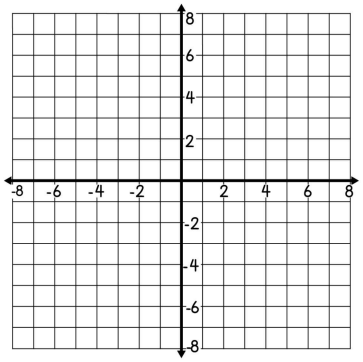
7. $x = 1$



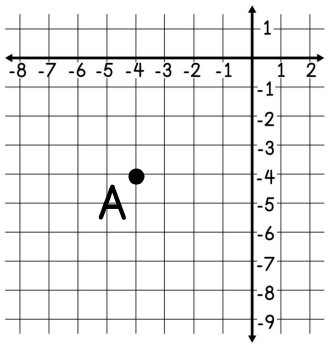
8. $y = -4$



9. $y = 4x - 5$



10. A line passes through point A and has the equation $y = -\frac{1}{2}x - 6$. Using the slope, plot 5 more points the line contains on the coordinate grid. Then, list the five points below.

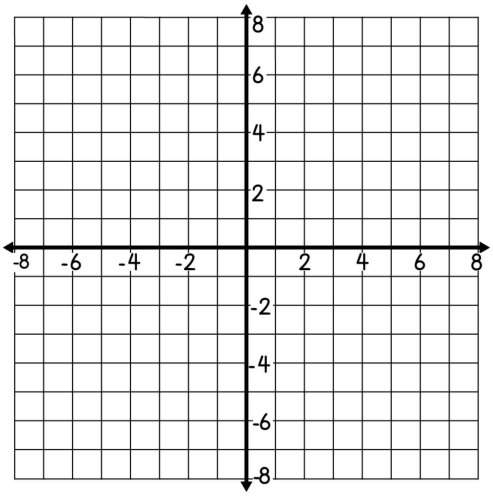


_____ , _____ , _____ , _____ , _____

Use your understanding of graphing linear equations to answer the question below.

11. Mrs. Schultz asked her students how they would graph the linear equation below. First, graph the line on the provided coordinate grid. Then, read the discussion from the students and circle any statements that are true.

$y = 2x + 1$



MAXWELL

First, I would plot the y-intercept at (1, 0).

ELEANOR

From the y-intercept, I would count up two and to the right one and plot a point at (1, 3).

DYLAN

From the y-intercept, I would count down two and to the left one and plot a point at (-1, -1).