Creating & Representing Linear Functions: Slope-Intercept Form

Name: _____

Goals:

Target A: I can write the linear function from a graph, two points, a table, or situation.

Target B: I can interpret slope and y-intercept in the context of a situation.

Target C: I can graph of a linear function given an equation a situation.

Target D: I can solve and evaluate a linear function

Resources:

http://mrnohner.com/linear.html

Match the vocabulary word to its definition

Coordinates	An equation written with one or more variables where the exponent of the variable is one
Denominator	The intersection of the x axis and y axis on the coordinate plane
Linear Equation	The lower part of a fraction
Numerator	Lines or planes that intersect to form right angles
Origin	The horizontal number line of a coordinate plane
Ordered Pair	The point where a graph intersects the x-axis
Parallel	Ordered pairs that identify points on a plane
Perpendicular	A line with slope m and y-intercept b has an equation y=mx+b
Slope	A letter that represents one or more numbers
Slope-Intercept Form	A pair of numbers (x, y) used to identify a point in a coordinate plane
Variable	Lines or planes that never intersect
X-Axis	A measure of steepness of a line, represented by m
X-Intercept	Upper half of the fraction
Y-Axis	The vertical number line of a coordinate plane
Y-Intercept	The point where a graph intersects the y-axis

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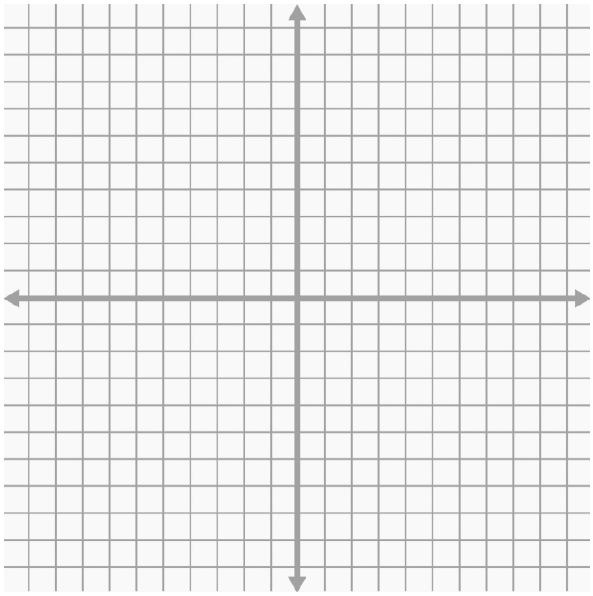
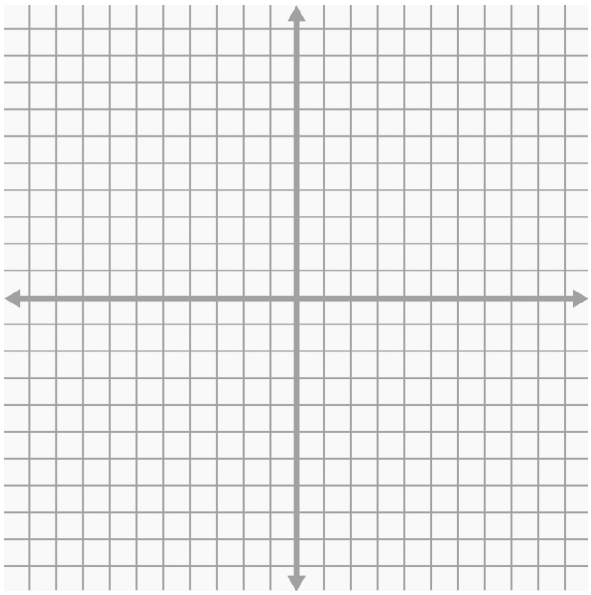
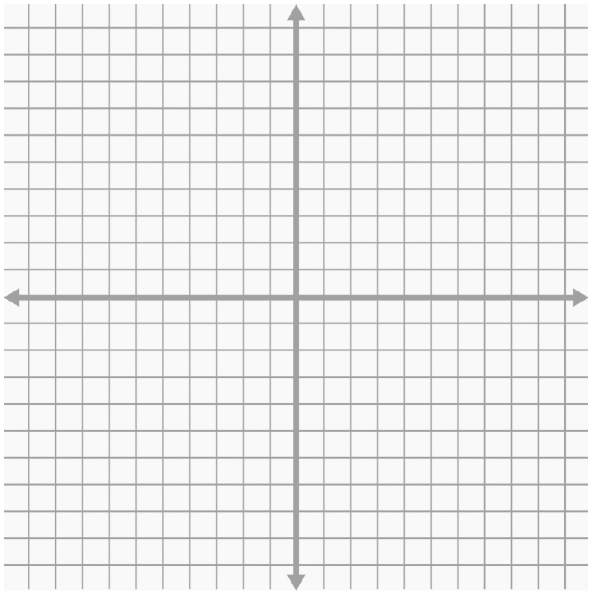
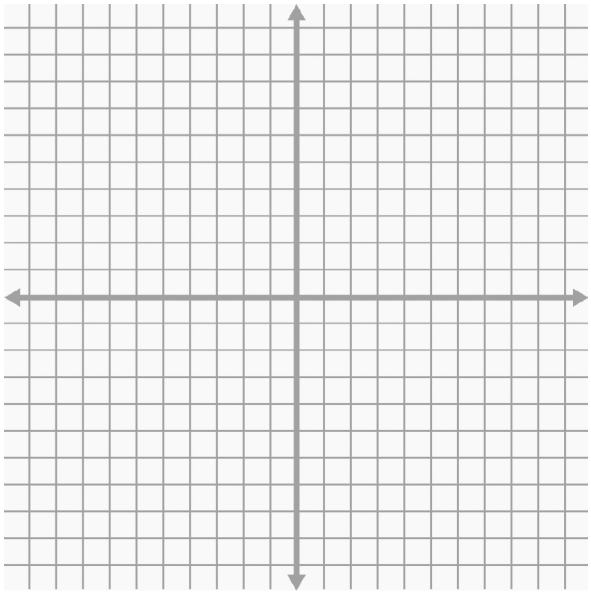
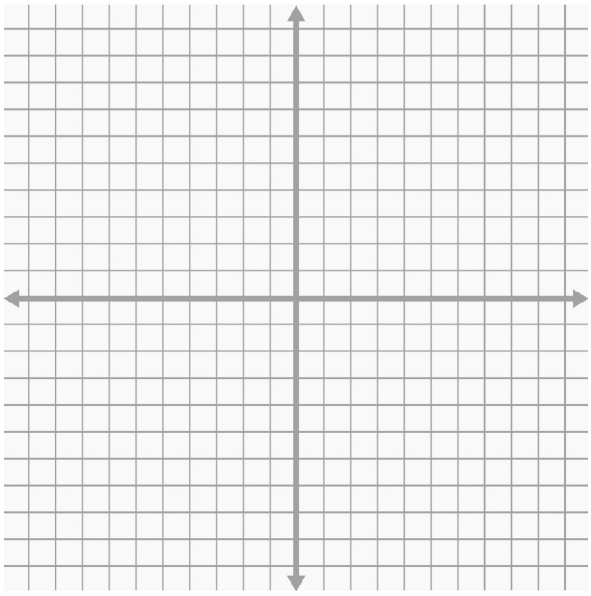
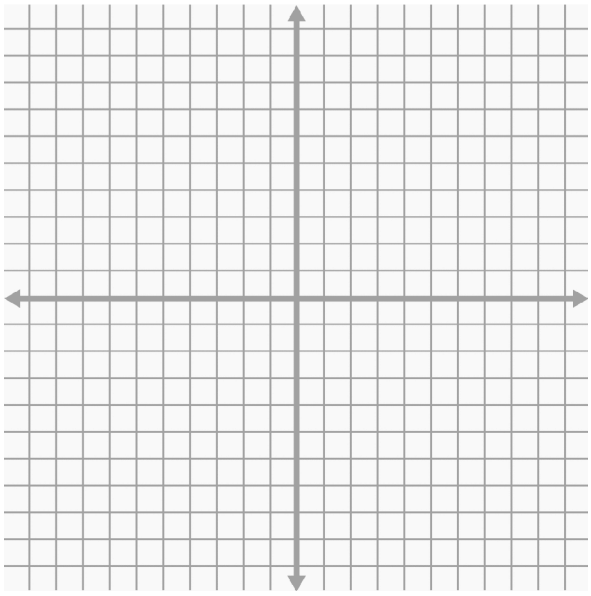


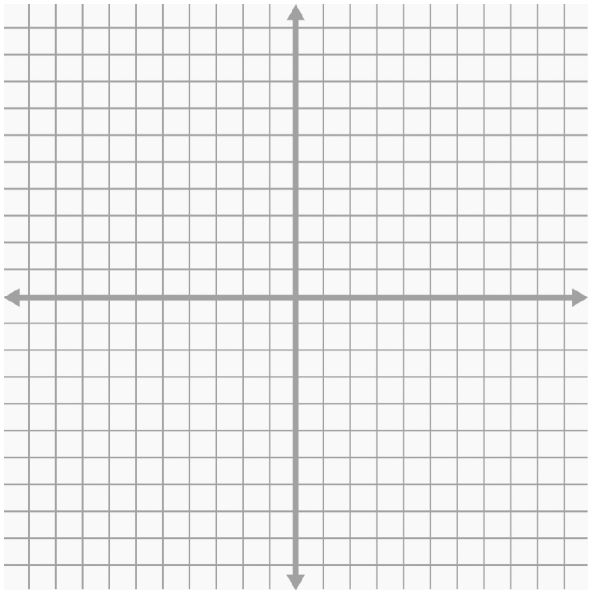


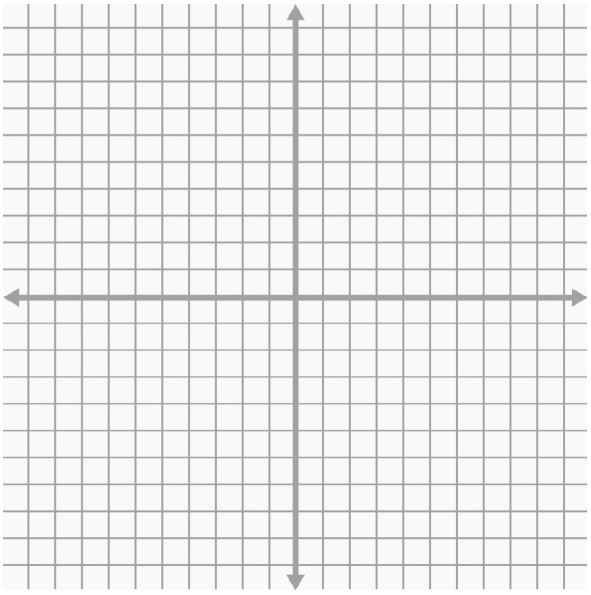


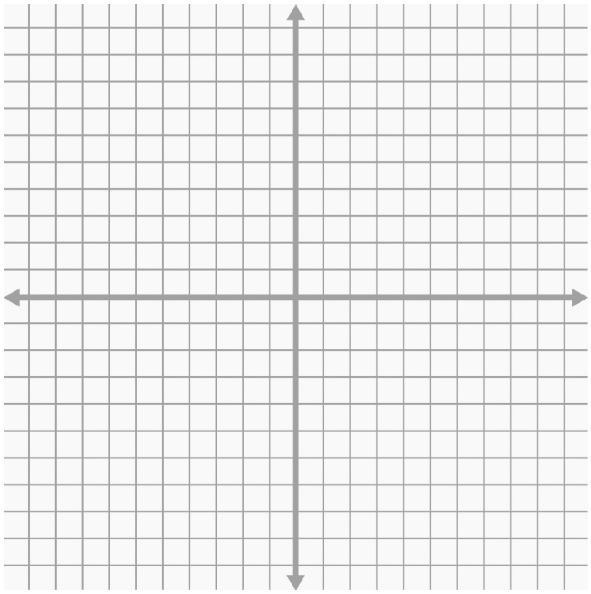


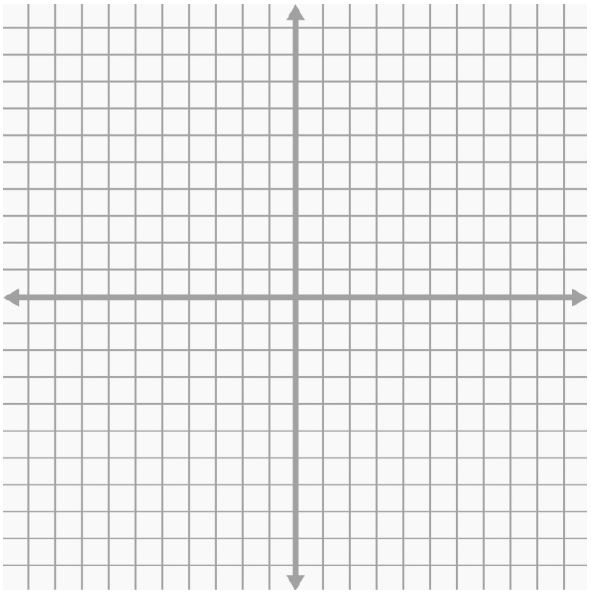


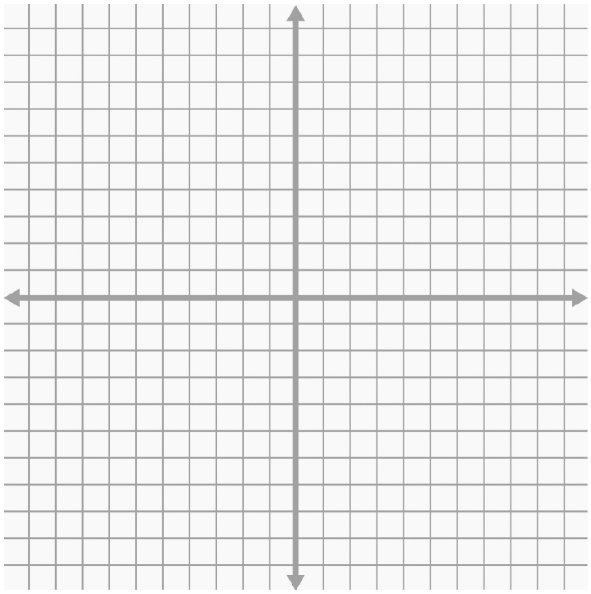


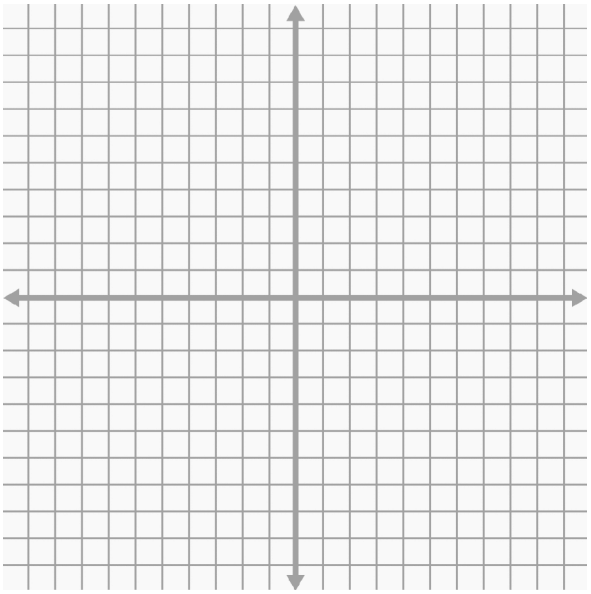


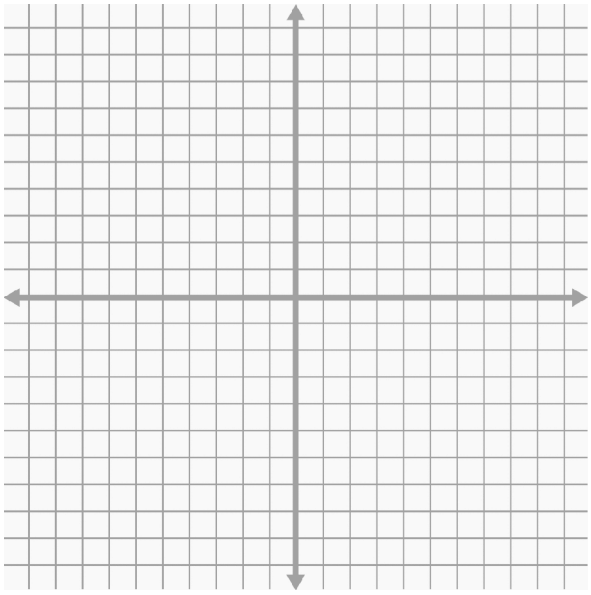


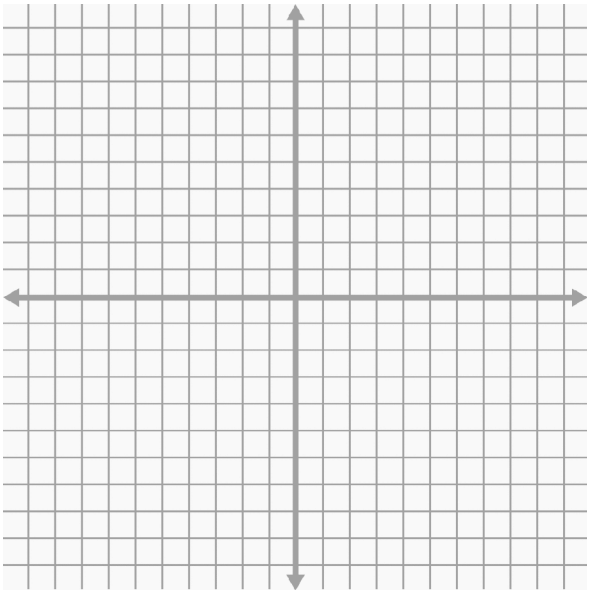


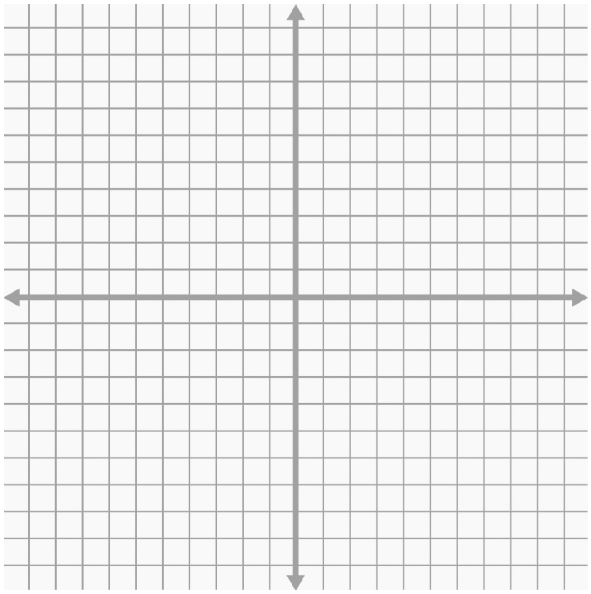


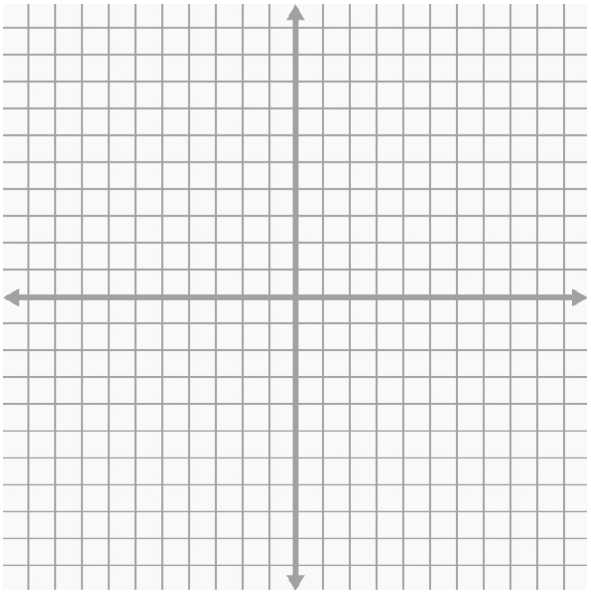


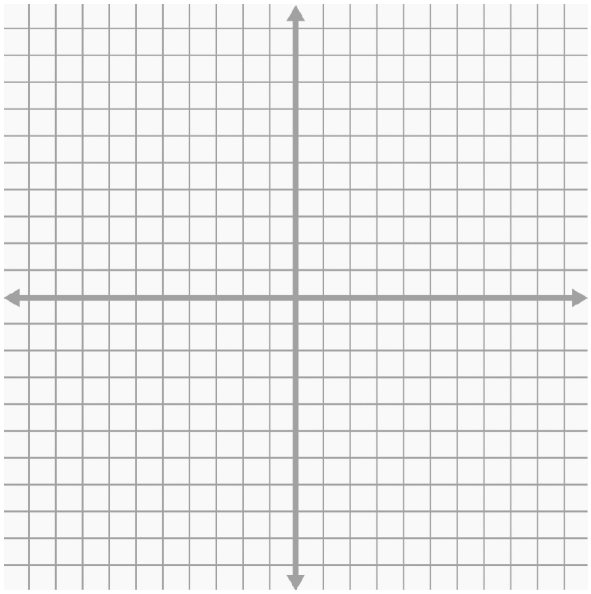


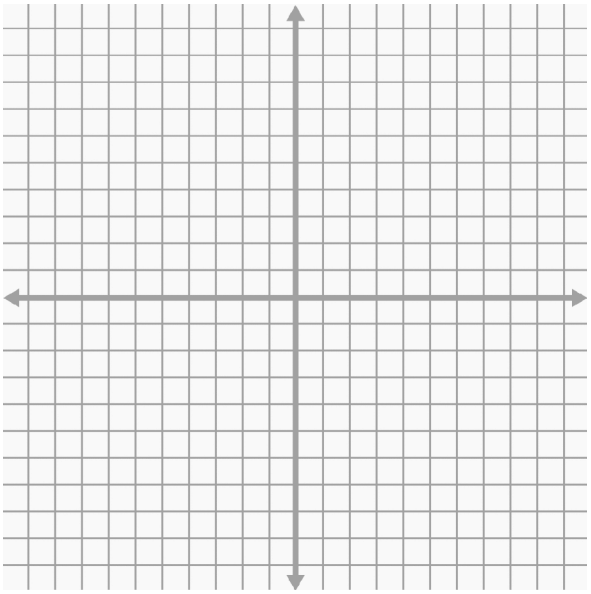












Finding Slope **Name :**_____

Many people use the word "slope" to describe "rate of change." In this investigation, let's find some fast ways to find slope.

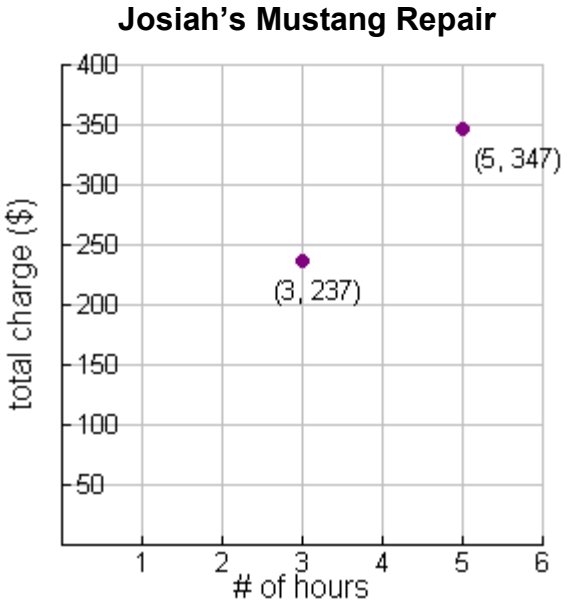
1. Josiah Jumpstart took his Mustang in to Fern's Fixit shop. The total estimate for repair was $347 for 5 hours of labor. Fern ended up fixing the car in just 3 hours, which reduced his charge to $237. Since Fern charges an hourly rate for repairs, we can find the slope for this situation.

   a. Look at a table.

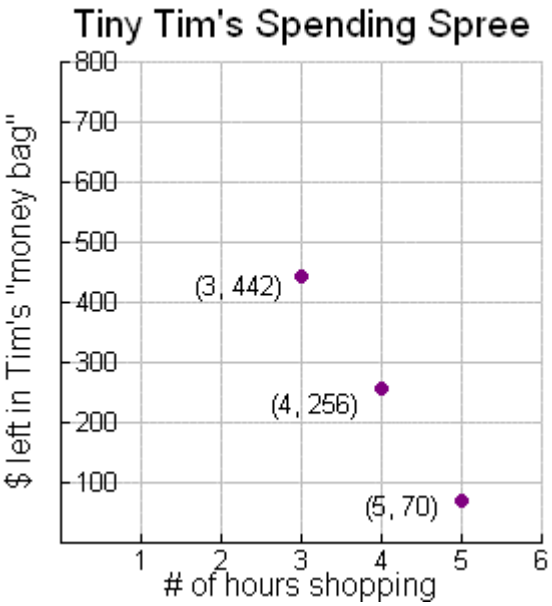
# of hours	0	1	2	3	4	5
total charge ($)				237		347

   Describe how you find the slope (rate of change) using the table. Show your calculations.

   b. Look at a graph. We know is the slope is $55 per hour. Explain how someone else could use the graph to find the slope is $55 per hour.



2. Tim went on a shopping spree. The graph to the right shows the amount of money left in his "money bag" at different hours.



a. Is the rate of change (slope) positive or negative? Explain how you know.

b. Consider the points (3, 442) and (4, 256). Starting at the point (3, 442) and ending at the point (4, 256) find

- The change in *y* which we call " Δy "
- The change in *x* which we call " Δx "
- The ratio in those changes which is really $\frac{\Delta y}{\Delta x}$

c. Using the points (3, 442) and (5, 70) find the slope.

d. In your own words, how much is the slope (rate of change) in this situation and what does it mean?

e. Explain why the slope you found in part b should be the same as that as you found in part c.

f. Consider the points (3, 442) and (4, 256) again. This time use the point (4, 256) as the starting place and (3, 442) as the ending point. Calculate the following to show the slope is still -186 dollars/hour.

Assignment #2: Slope Homework

1. What is the steepest slope possible? Justify your answer.

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2. Use the table to answer the following questions.
   a) What is the slope between day 11 and 17?
   b) What is the slope between day 17 and 20?
   c) What is the slope between day 11 and 20?
   d) What does slope mean in the context of this problem?

Days Since Samantha Started Saving	Dollars ($)
11	266.50
17	377.50
20	433

3. Use the table to answer the following questions.
   a) What is the slope between day 0 and 10?
   b) What is the slope between day 10 and 26?
   c) What does slope mean in the context of this problem?

Number of days Tim has quit soda	Weight (pounds)
0	250
10	243
26	231.8

4. If the table is like this, do you think it is linear or not? (justify by finding the slopes)

x	y
5	35
7	51
12	99

Assignment #2: Slope Homework

Find the slope of the line through each pair of points.

1) $(18, 9), (0, -14)$

2) $(5, -18), (15, -6)$

3) $(-3, 1), (15, 3)$

4) $(-18, 0), (20, 4)$

5) $(19, 3), (-7, -8)$

6) $(-12, 10), (-19, -4)$

7) $(7, -9), (-11, 9)$

8) $(-20, 1), (10, -20)$

Algebra 1-2 Name_____

Writing An Equation From A Graph

Write the slope-intercept form of the equation of each line.

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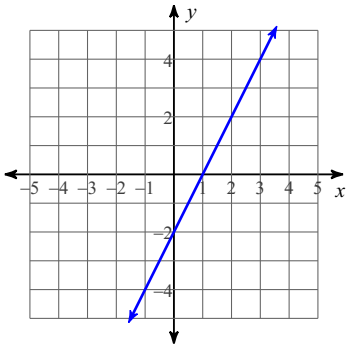

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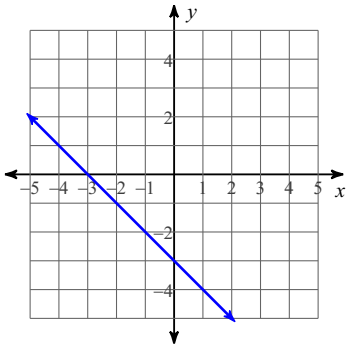

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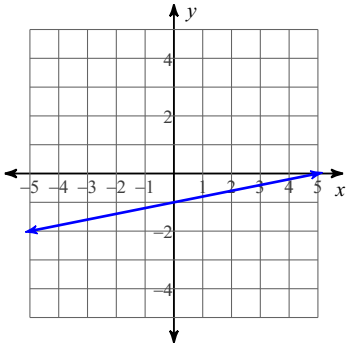

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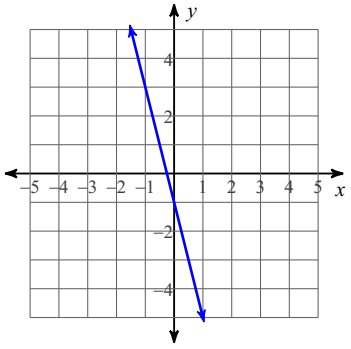

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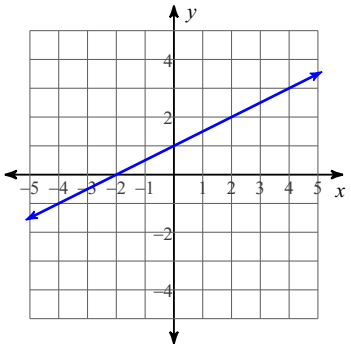

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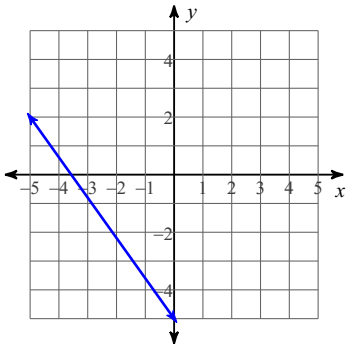

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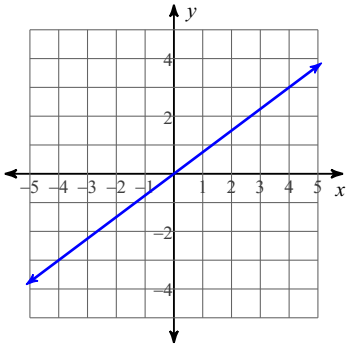

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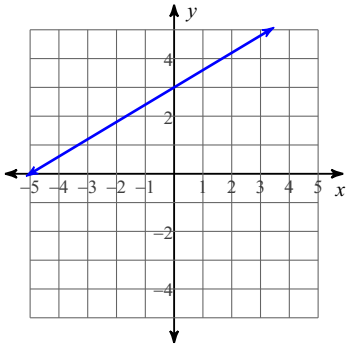

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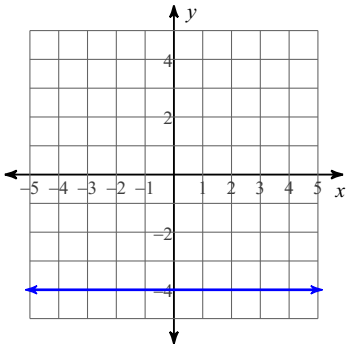

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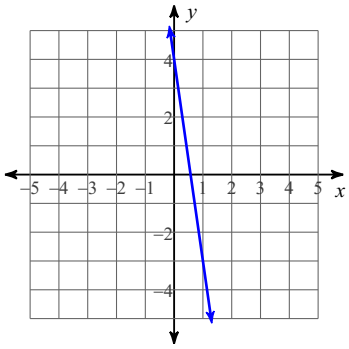

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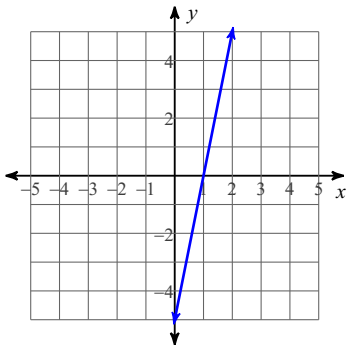

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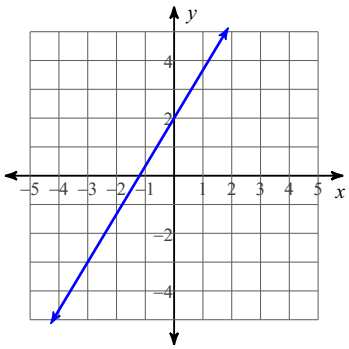

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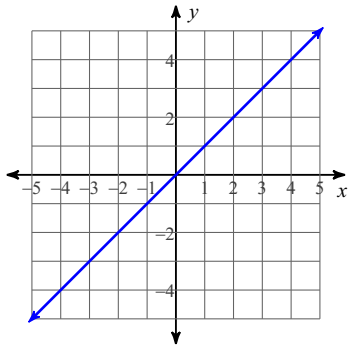

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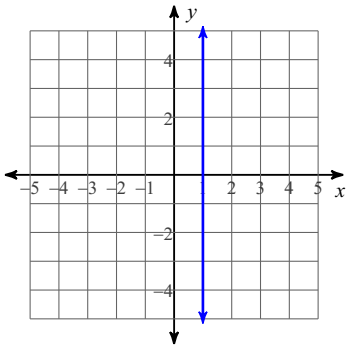

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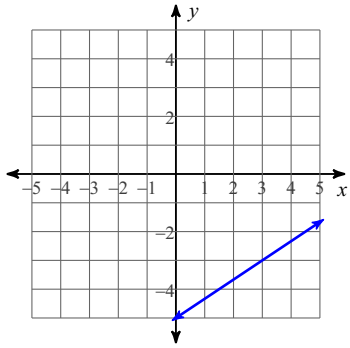

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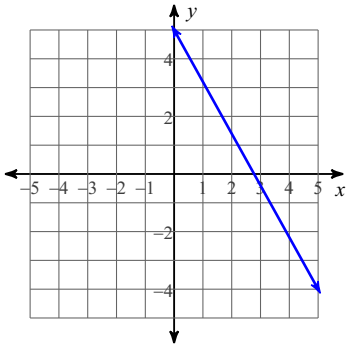
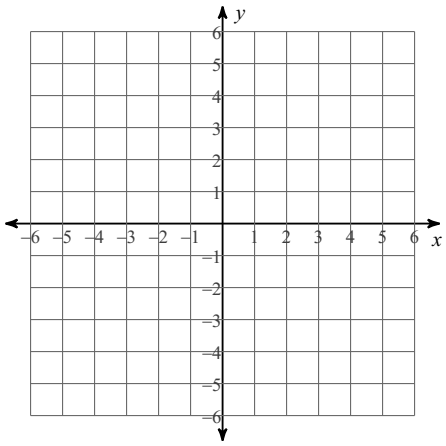


Algebra 1-2 Name_____

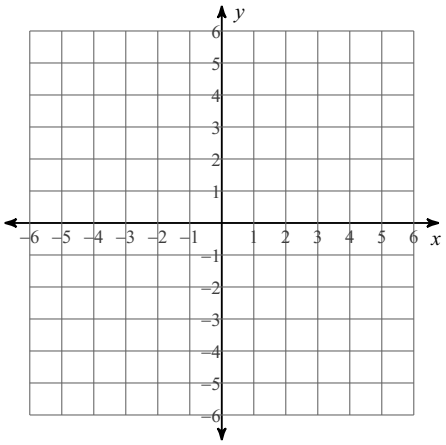
Graphing In Slope Intercept Form

Sketch the graph of each line.

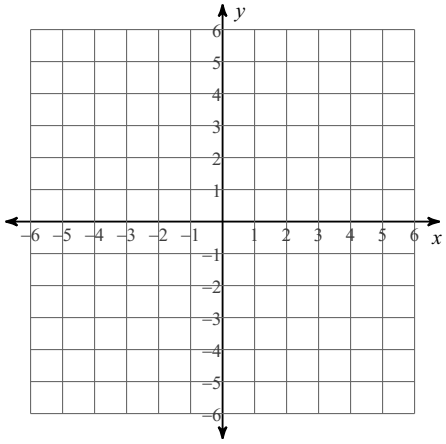
1) $y = \frac{1}{4}x - 1$



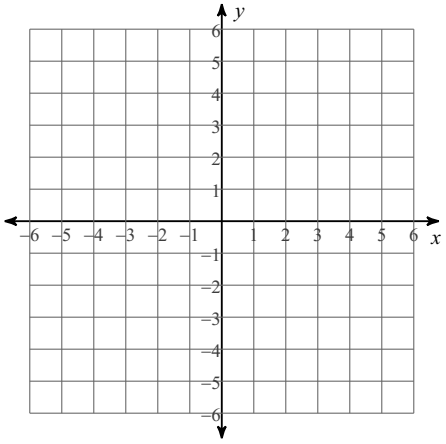
2) $y = 2x + 2$



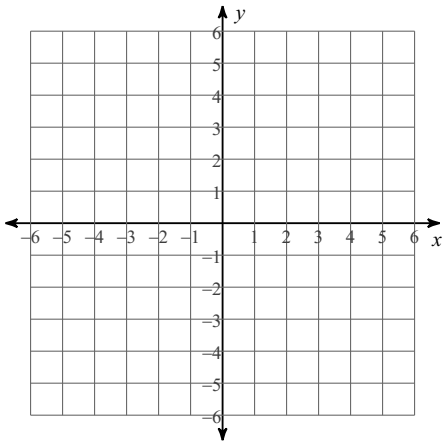
3) $y = -2x + 5$



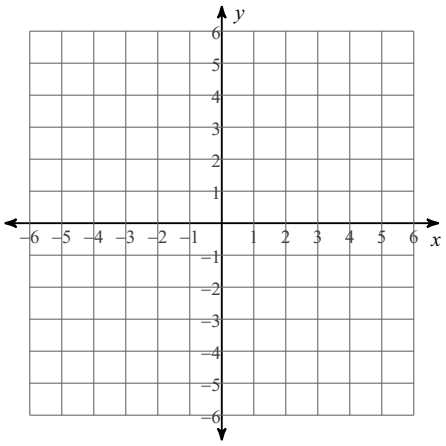
4) $y = \frac{2}{5}x + 2$



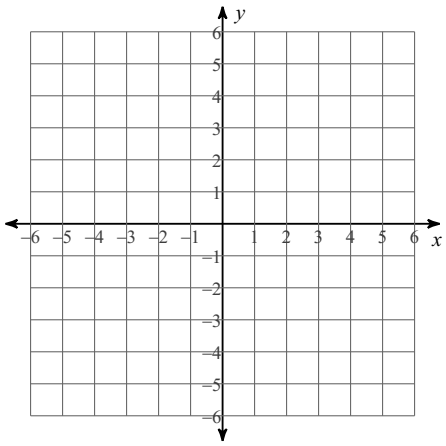
5) $x = 1$



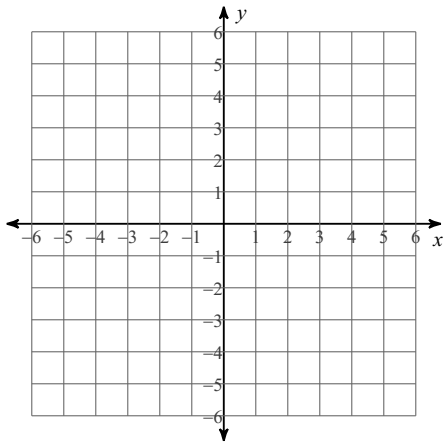
6) $y = 4$



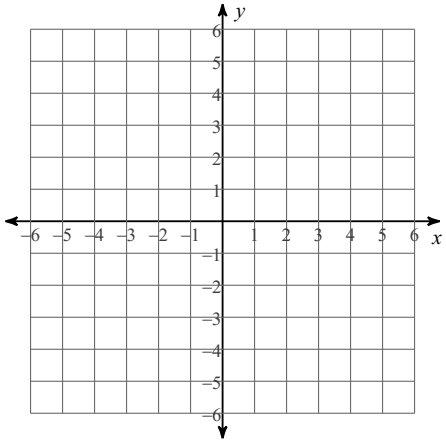
7) $y = \frac{3}{4}x - 2$



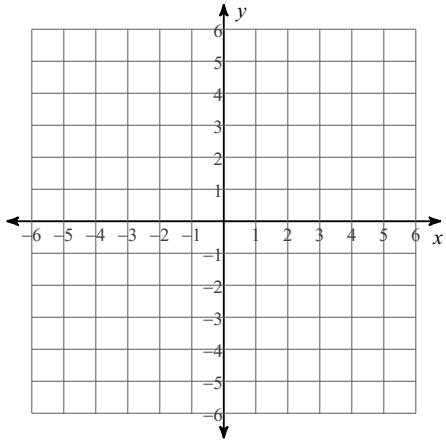
8) $y = \frac{1}{3}x + 5$



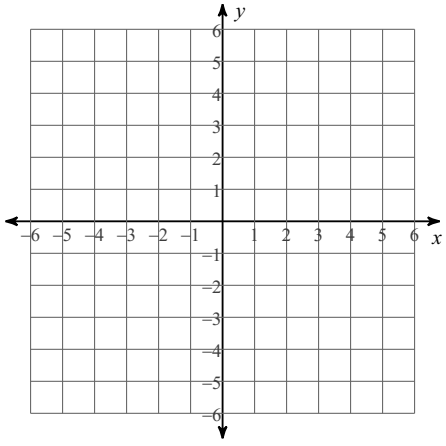
9) $y = 2x$



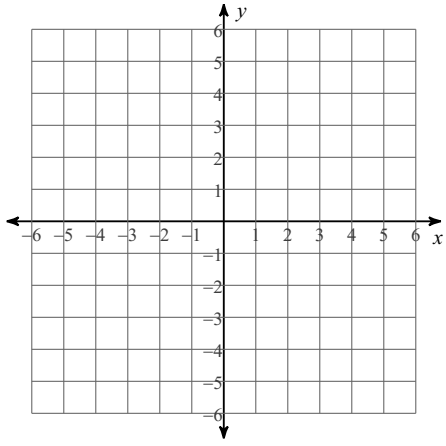
10) $y = x + 3$



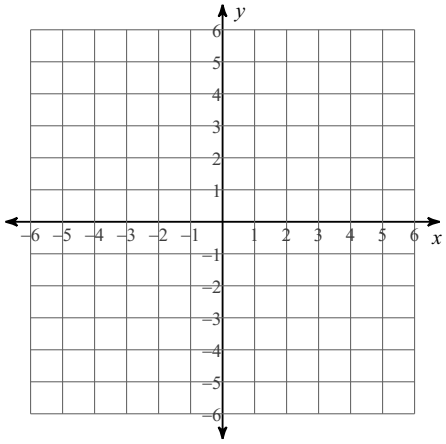
11) $y = -\frac{2}{5}x + 3$



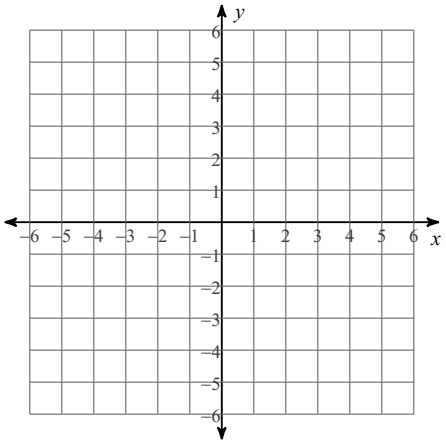
12) $y = -\frac{6}{5}x - 1$



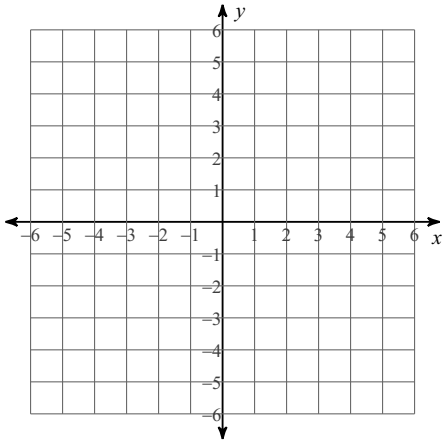
13) $y = -\frac{5}{3}x + 5$



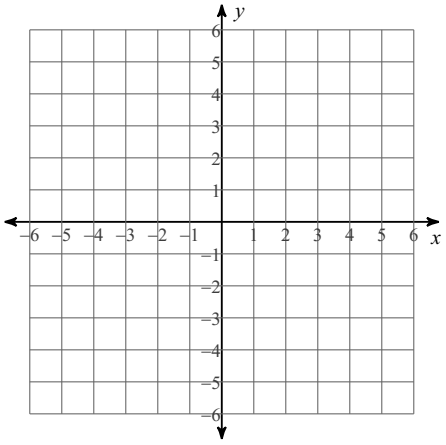
14) $y = 5x$



15) $y = -\frac{2}{3}x + 4$



16) $y = \frac{1}{4}x + 2$



Algebra 1-2 Name_____

Writing Equations With Points And Slopes

Write the slope-intercept form of the equation of each line given the slope and y-intercept.

1) Slope = 2, y-intercept = –4

2) Slope = $\frac{4}{3}$, y-intercept = 4

Write the slope-intercept form of the equation of the line through the given point with the given slope.

3) through: $(-3, 3)$, slope = –4

4) through: $(1, -2)$, slope = –7

5) through: $(3, 3)$, slope = $-\frac{2}{3}$

6) through: $(5, 3)$, slope = $\frac{6}{5}$

7) through: $(-5, 1)$, slope $= -\frac{2}{5}$

8) through: $(4, 1)$, slope $= -\frac{1}{4}$

Write the slope-intercept form of the equation of the line through the given points.

9) through: $(-2, -5)$ and $(-3, -3)$

10) through: $(-1, 2)$ and $(-5, -2)$

11) through: $(-2, -4)$ and $(0, -5)$

12) through: $(-1, 0)$ and $(2, 3)$

13) through: $(-3, -2)$ and $(0, 5)$

14) through: $(5, 1)$ and $(0, 4)$

Describing What Slope and Y-intercept Mean

1. The function below shows the cost of a hamburger with different numbers of toppings "t". y = 1.90 + 1.40t

a. What is the y-intercept, and what does it mean?

b. What is the slope, and what does it mean?

c. If Jodi paid $3.30 for a hamburger, how many toppings were on Jodi's hamburger?

2. The function below shows the cost of an ice cream sundae with different numbers of toppings "t". y = 0.75t + 2.25

a. What is the y-intercept, and what does it mean?

b. What is the slope, and what does it mean?

c. If Kaye paid $6.00 for a sundae, how many toppings were on Kaye's sundae?

3. This function shows the cost to attend the fair if you ride "r" rides. y = 5 + 1.75r

a. What is the y-intercept, and what does it mean?

b. What is the slope, and what does it mean?

c. If Al spent went on 9 rides how much did he spend?

4. Dionne pays a fixed fee plus an hourly rate to rent a boat. The table below shows how much Dionne paid for the boat. What was Dionne's hourly rate to rent the boat?

Dionne's Boat Rental					
Hours Rented	1	2	3	4	5
Amount Paid	$27	$39	$51	$63	$75

5. Rich is a member of a gym. He pays a monthly fee plus a per-visit fee. The equation below represents the monthly amount Rich pays for his membership to the gym per month for x visits. $y = 3x + 10$.

a) What does the y-intercept of the graph of this equation represent?

6. Charlie rented a moving truck. He paid a daily fee plus a per-mile fee to rent the truck. The equation below represents the daily amount Charlie paid for the truck if he drives it x miles. $y = 0.5x + 10$

a) What does the slope of the graph of this equation represent?

Write a linear equation in slope-intercept form to model each situation.

7. You rent a bicycle for $20 plus $2 per hour.

8. An auto repair shop charges $50 plus $25 per hour.

9. A candle is 6 inches tall and burns at a rate of ½ inch per hour.

10. The temperature is 15° and is expected to fall 2° each hour during the night.

Describe the difference changing a value makes.

11. What happens to the graph when $y = 3x+5$ becomes $y = 3x – 7$?

12. What happens to the graph when $y = 2x+5$ becomes $y = 7x + 5$?

13. What happens to the graph when $y = 3x$ becomes $y = -3x$?

Introduction Into Function Notation

1) Evaluate the following expressions given the functions below:

g(x) = -3x + 1 **f(x) = x^2 + 7** $h(x) = \frac{x}{12}$ **j(x) = 2x^2 +9**

a. g(10) = **b.** h(3) = **c.** j(3) =

d. j(-2) = **e.** h(t) = **f.** g(b+2) =

g. Find x if g(x) = 16 **h.** Find x if h(x) = –2 **i.** Find x if f(x) = 23

2) Given the function **f(x) = 2000(½)^x** , which is larger f(5) or f(10)?

WRITING LINEAR EQUATIONS FROM WORD PROBLEMS

You want to use the given information to decide which form will be the easiest to use to write the equation. To write a linear equation you need to find two things:

a)

b)

1. An airplane 30,000 feet above the ground begins descending at the rate of 2000 feet per minute. Assume the plane continues at the same rate of descent. The plane's height and minutes above the ground are related to each other.

Identify the variables in this situation:

x= _____ y= _____

What is the given information in this problem (Circle One):

a. I am given two points

b. I am given a point and a slope

c. I am given a slope and a y-intercept

a. Write an equation to model the situation.

b. Use your equation to find the altitude of the plane after 5 minutes.

c. What does your y-intercept mean in this problem?

d. What does your slope mean in this problem?

2. Suppose you receive $100 for a graduation present, and you deposit it in a savings account. Then each week thereafter, you add $5 to the account. The amount in the account is a function of the number of weeks that have passed.

Identify the variables in this situation:
x= _____ y= _____

What is the given information in this problem (Circle One):

a. I am given two points
b. I am given a point and a slope
c. I am given a slope and a y-intercept

a. Find an equation for the amount "y" you have after "x" weeks.

b. Use your equation to find when you will have $310 in the account.

3. Marty is spending money at the average rate of $3.52 per day. After 140 days he has $68 left. The amount left depends on the number of days that have passed.

a. Write an equation for the situation.

Identify the variables in this situation:
x= _____ y= _____

What is the given information in this problem (Circle One):

a. I am given two points
b. I am given a point and a slope
c. I am given a slope and a y-intercept

b. Use your equation to find the amount of money he had on day 72.

c. What is your y-intercept? What does it mean in this situation?

4. Diane's children eat cereal like crazy so she went to Costco to stock up. 8 days after her trip she counted that she had 58 boxes of cereal and on day 22 she had 37 boxes left.

Identify the variables in this situation:
x= _____ y= _____

What is the given information in this problem (Circle One):

a. I am given two points
b. I am given a point and a slope
c. I am given a slope and a y-intercept

a. Write an equation for the situation.

b. What does the y-intercept mean in this situation?

c. What does the slope mean in this situation?

d. Use your equation to find out when she will run out of cereal.

5. A 5-minute overseas call to the Philippines costs $5.91 and a 10-minute call costs $10.86. The cost of the call and the length of the call are related.

Identify the variables in this situation:
x= _____ y= _____

What is the given information in this problem (Circle One):

a. I am given two points
b. I am given a point and a slope
c. I am given a slope and a y-intercept

a. Write an equation that models the situation.

b. What does the slope mean?

c. How long can you talk on the phone if you have $12 to spend?

6. You are driving to California with some friends to visit the redwoods. You pack the car, charge your phone and fill up for gas to start your trip. After 1.5 hours of driving you have 11.7 gallons of gas remaining. After 4 hours of driving you have 6.2 gallons of gas remaining.

Identify the variables in this situation:
x= _____ y= _____

What is the given information in this problem (Circle One):

a. I am given two points
b. I am given a point and a slope
c. I am given a slope and a y-intercept

a. Write an equation modeling this situation.

b. What does the y-intercept mean in this situation?

c. What does the slope mean in this situation?

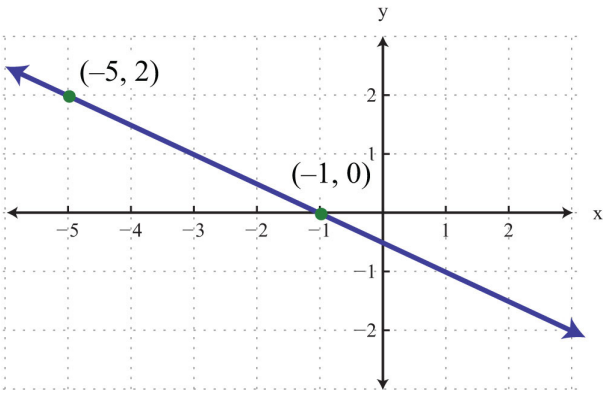
Skills Checklist

Skill: I can calculate the slope from a graph, two points, a table, or an equation.

1) What is the slope of the line y = 5x - 9

2) What is the slope between the points (8, -15) and (-2, 5)

3) Find the slope.



4) What is the slope of this table?

Weight of Burger (grams)	Calories
5	475
13	915
17	1135
19	1245

Circle One

I understand how to do this | *I made a mistake, but it was minor* | *I really need to work on this before the test*

Skill: I can interpret the meaning of slope and the y-intercept.

5) Sarah loves caramel popcorn, but then again who doesn't? She gathered some data about her popcorn she made right before she started her movie and found it is modeled by the line y = -50x + 1210 where x represents time in minutes and y represents that amount of popcorn she has left.

   a) What does the slope mean?

   b) What does the y-intercept mean?

Circle One		
I understand how to do this	*I made a mistake, but it was minor*	*I really need to work on this before the test*

Skill: I can use the equation of a line to make predictions.

6) How long until Sarah has only 150 popcorn left?

7) How much popcorn does she have after 16 minutes?

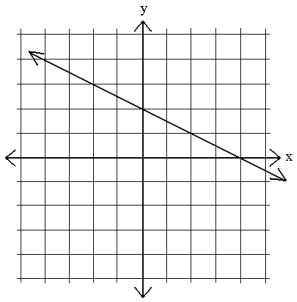
Circle One		
I understand how to do this	*I made a mistake, but it was minor*	*I really need to work on this before the test*

Skill: I can find the equation of the line from graphs, sets of points, situations or from data.

Circle One

I understand how to do this	*I made a mistake, but it was minor*	*I really need to work on this before the test*

8) What is the equation of this line?



9) What is the equation of the line with a slope of -4 that passes through the point (6, 15)

10) What is the equation of the line between the points (-4, 10) and (6, 5)?

11) Ibrahem is running a small kite business. He knows that for every kite he sells he makes $5.75 in profits. However, to make all of the kites he has to spend 1500 dollars in production and labor. What is the equation that models how much profit he makes based upon the number of kites he has sold?

Skill: I can solve and evaluate a linear functions with function notation

Circle One		
I understand how to do this	*I made a mistake, but it was minor*	*I really need to work on this before the test*

12) If $f(x) = x^2 + 3x$ and $g(x) = 10 - 3x$

a) f(5) =

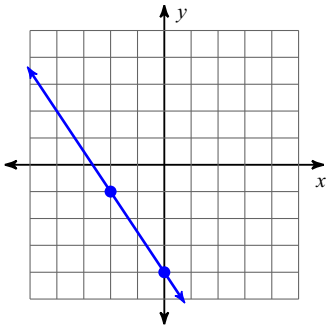
b) g(1) - f(1)

c) What is x if g(x) = 25?

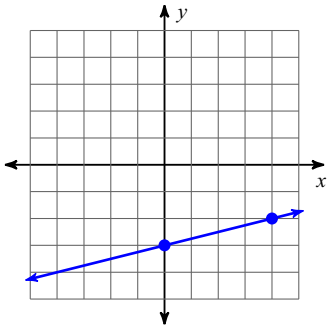
Practice Linear Test

Find the slope of each line.

1)



2)



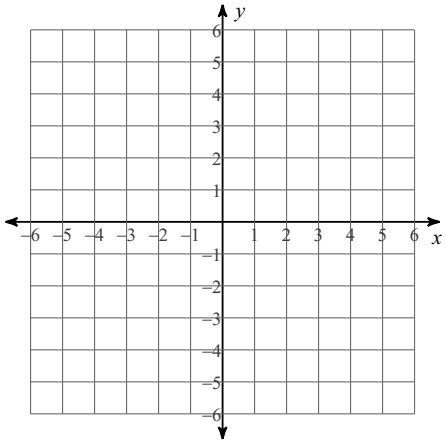
Find the slope of the line through each pair of points.

3) $(5, 9), (-14, 5)$

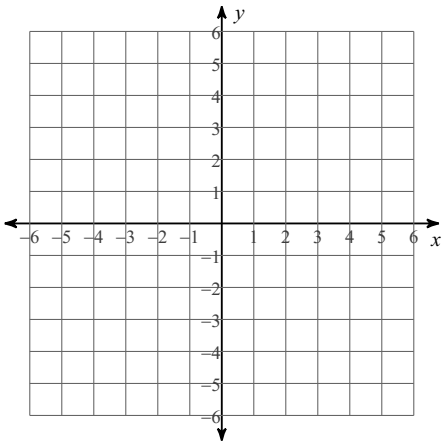
4) $(-20, -13), (13, 15)$

Sketch the graph of each line.

5) $x - 2y = -6$

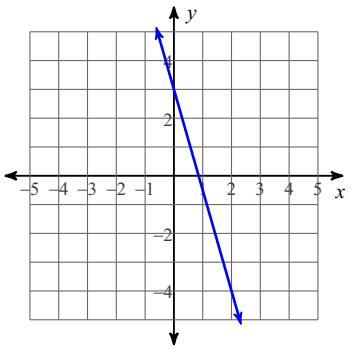


6) $y = -\frac{2}{5}x - 3$



Write the slope-intercept form of the equation of each line.

7)



8) $6x - 5y = -10$

9) through: $(-3, 2)$, slope $= \frac{2}{3}$

10) through: $(4, -2)$ and $(5, 2)$

11) Use the table for the following problems:

Age (Years)	Length of Hair (inches)
0	1
2	5
5	11
11	23

a) Find the slope from the table

b) What does it means in the context of this situation.

---

12) Portland has been tracking the number of people commuting to work and compared it to that day's high temperature. The table below is the result of their research.

Temperature (F°)	Number of people biking to work
58	785
64	855
66	881
74	972
80	1044
86	1122
96	1242

a) What is the trend line that represents this data?

b) What does the slope of your trend line mean in this problem?

c) Use your trendline to predict the number of people that would bike on a 100° day.

13) Samantha is filling her pool with water. There is a little bit of water in there already, and she doesn't know how much. She has a gallon jug and dumps 4 gallons in every minute. At 28 minutes her pool is finally completely filled at 200 gallons.

Identify the variables in this situation:
x= _____ y= _____

What is the given information in this problem (Circle One):

a. I am given two points
b. I am given a point and a slope
c. I am given a slope and a y-intercept

a) Find the linear equation that represents this situation.

b) What does the slope mean in this situation?

c) What does the y-intercept mean in this situation?

---

14) Terrence is saving up for a new bike that costs $460. Terrence has a little bit of money, but he needed a job to get the rest. So he started delivering newspapers and he has been setting aside a portion of his paycheck each day for the bike. After 10 days of saving he has $132. On day 32 he checks again and has $308 dollars .

Identify the variables in this situation:
x= _____ y= _____

What is the given information in this problem (Circle One):

a. I am given two points
b. I am given a point and a slope
c. I am given a slope and a y-intercept

a) Find the linear equation that represents this situation.

b) What does the slope mean in this situation?

c) What does the y-intercept mean in this situation?

d) How long until he can buy the bike?

Linear Equations: Challenge Problems

1. Find the Celsius/Fahrenheit conversion equation using only the freezing and boiling points for both Celsius and Fahrenheit along with your knowledge of finding the equation of a line from two points.

2. Using the previous problem and a little creative thinking, please find the temperature which has the same measurement in Celsius and Fahrenheit.

3. Research what modular arithmetic is and answer the following questions:

    a) 7 mod 2 =

    b) 24 mod ? = 0 There are multiple solutions to this, find all 8.

    c) For all integer values of x, 7(8x- 4) mod 2 =

4. If P(x) = 3x+1 then what should G(x) be so that P(G(9)) = 9 and P(G(11) = 11. In fact P(G(i)) where i is any number will equal that same number i!

5.

Each cube has designs on three faces. When unfolded, which figure at right could it become?

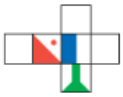
1.

A.

B.

C.

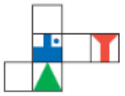
D.



2.

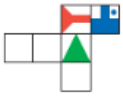
A.

B.



C.

D.



6.

If $\frac{a}{b} = 2$, what is the value of $\frac{4b}{a}$?

A) 0

B) 1

C) 2

D) 4

7.

If $y = kx$, where k is a constant, and $y = 24$ when $x = 6$, what is the value of y when $x = 5$?

A) 6

B) 15

C) 20

D) 23

8.

A start-up company opened with 8 employees. The company's growth plan assumes that 2 new employees will be hired each quarter (every 3 months) for the first 5 years. If an equation is written in the form $y = ax + b$ to represent the number of employees, y, employed by the company x quarters after the company opened, what is the value of b ?

Solutions

Assignment #1: Finding Slope

1) a) (347 - 237) / (5-3) b) rise over run
2) a) negative, as you go right on the graph the value decreases. b) -186 c) -186
   d) Tim is spending 186 dollars an hour e) Linear equations have the same slope between all points.

Assignment #2: Slope Homework

1) No steepest slope exists. 2) 18.5 . She saves 18.5 dollars a day

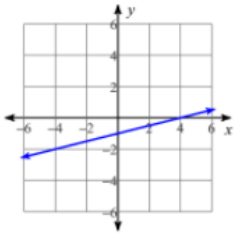
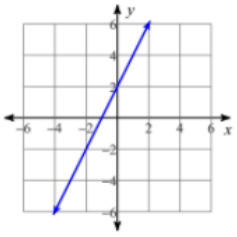
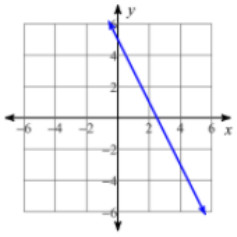
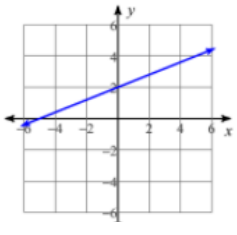
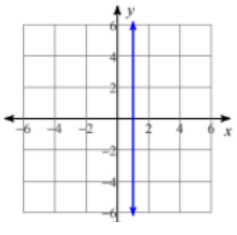
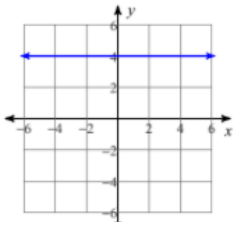
3) -7/10 or -.7 He loses .7 pounds a day. 4) Not linear Slopes between points are not equal

1) 23/18 2) 6/5 3) 1/9 4) 2/19 5) 11/26 6) 2 7) -1 8) -7/10

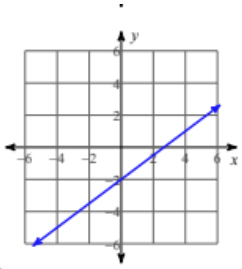
Assignment #3: Writing An Equations From a Graph

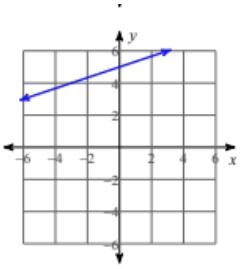
1) $y = 2x - 2$
2) $y = -x - 3$
3) $y = \frac{1}{5}x - 1$
4) $y = -4x - 1$
5) $y = \frac{1}{2}x + 1$
6) $y = -\frac{7}{5}x - 5$
7) $y = \frac{3}{4}x$
8) $y = \frac{3}{5}x + 3$
9) $y = -4$
10) $y = -7x + 4$
11) $y = 5x - 5$
12) $y = \frac{5}{3}x + 2$
13) $y = x$
14) $x = 1$
15) $y = \frac{2}{3}x - 5$
16) $y = -\frac{9}{5}x + 5$

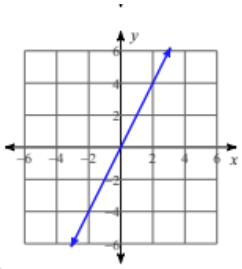
Assignment #4: Graphing In Slope Intercept

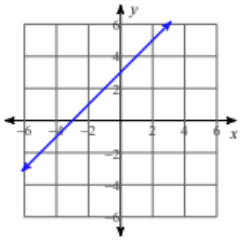
1) 
2) 
3) 
4) 
5) 
6) 

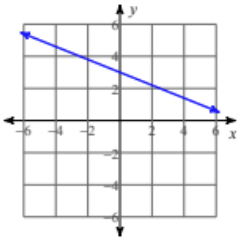
Solutions

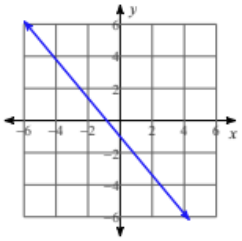
7) 

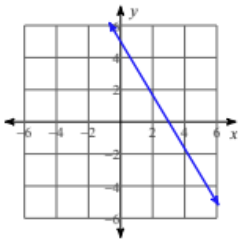
8) 

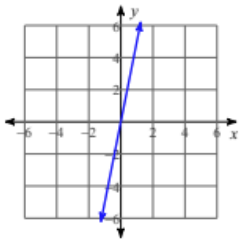
9) 

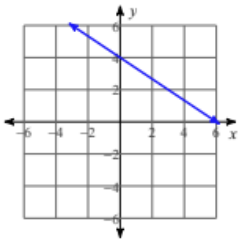
10) 

11) 

12) 

13) 

14) 

15) 

Assignment # 5: Writing Equations With Points And Slopes

1) $y = 2x - 4$

2) $y = \frac{4}{3}x + 4$

3) $y = -4x - 9$

4) $y = -7x + 5$

5) $y = -\frac{2}{3}x + 5$

6) $y = \frac{6}{5}x - 3$

7) $y = -\frac{2}{5}x - 1$

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

9) $y = -2x - 9$

10) $y = x + 3$

11) $y = -\frac{1}{2}x - 5$

12) $y = x + 1$

13) $y = \frac{7}{3}x + 5$

14) $y = -\frac{3}{5}x + 4$

Assignment # 6: Describing What The Slope And Y-Intercept Mean?

1a) (0,1.90) The cost of a burger with no toppings is $1.90.
1b) 1.40 . Each additional topping costs another $1.40
1c) Plug in 3.30 for y. Solving you get 1.
2a) (0,2.25) The cost of ice cream with no toppings is $2.25.
2b) .75. Each additional topping costs another $0.75
2c) Plug in 6.00 for y. Solving you get 5.
3a) (0,5) The cost to get into the fair is $5.

Solutions

3b) 1.75. Each costs another $1.75
3c) Plug in 9 for r. Solving you get 20.75.
4) $12
5) His monthly fee is $10.
6) It costs 50 cents every mile he drives the truck.
7) y = 20 + 2x 8) y = 25x + 50 9) y = 1/2x + 6 10) y = -2x + 15
11) y-intercept drops 12 units 12) the graph becomes steeper 13) the line goes down instead of up.

Assignment #7: Word Problems

1) a) y = -200x+30000 b) 20,000 c) The plane starts 30,000 feet in the air d) The plane is descending 2000 feet per minute
2) a) y = 5x + 100 b) 42 weeks
3) a) y = -3.52x + 560.80 b) 307.36 c) He started out with $560.80
4) a) y = -1.5x + 70 b) She bought 70 boxes of cereal at the store. c) Her family eats a box and a half of cereal everyday d) 46.67 days
5) a) y = .99x + .96 b) Each minute costs 99 cents c) 11.15 minutes
6) a) y = -2.2x + 15 b) Your car holds 15 gallons of gas when completely full. c) Your car goes through 2.2 gallons of gas every hour.

Assignment # 8: Function Notation Practice

1) a) -29 b) 0.25 or ¼ c) 27 d) 17 e) t/12 f) -3b-5 g) -5 h) -24 i) 4 and -4
2) f(10)

Assignment # 9: Skill Checklist

1) 5 2) -2 3) -½ 4) 55 5a) She eats 50 pieces every minute. 5b) She started with 1210 pieces
6) 21.2 minutes 7) 410 pieces 8) y = -1/2x +2 9) y = -4x +39 10) y = -½ x +8
11) y = 5.75x -1500 12a) 40 12b) 3 12c) -5

Assignment # 10: Practice Test

1) -3/2 2) ¼ 3) 4/19 4) 28/33 7) y = -7/2x + 3 8) y = 6/5x + 2 9) y = 2/3x + 4 10) y = 4x - 18
11a) y = 2x + 1 11b) Every year their hair grows 2 inches 12b) For every degree warmer it gets there are that many more people that bike to work. 12c) Plug in 100 for x and solve. 13a) y = 4x + 88
13b) Every minute 4 gallons get dumped into the pool. 13c) The pool starts with 88 gallons in it.
14a) y = 8x + 52 14b) Every day he saves 8 dollars. 14c) He starts with 52 dollars 14d) 51 days

Maya Angelou:

I've learned that people will forget what you said, people will forget what you did, but people will never forget how you made them feel.

You may not control all the events that happen to you, but you can decide not to be reduced by them.

Without courage we cannot practice any other virtue with consistency. We can't be kind, true, merciful, generous, or honest.

Hate, it has caused a lot of problems in the world, but has not solved one yet.

I've learned that I still have a lot to learn.

I can be changed by what happens to me. But I refuse to be reduced by it.

Nothing will work unless you do.

My mission in life is not merely to survive, but to thrive; and to do so with some passion, some compassion, some humor, and some style.

When you learn, teach. When you get, give.