Name: _____.

Show all work

Period: _____ Date: _____.

Warm-up on Jan. 9

Solve for y.

1. $2x + y = 8$

$-2x \quad -2x$

$y = -2x + 8$

2. $-6x + 3y = 12$

$+6x \quad +6x$

$\frac{3y}{3} = \frac{6x}{3} + \frac{12}{3}$

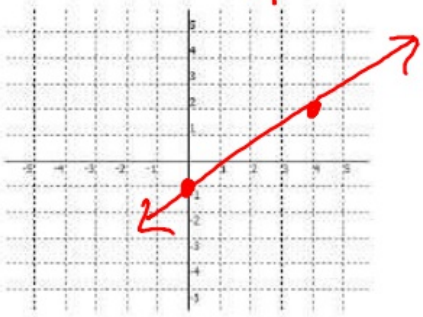
$y = 2x + 4$

Identify the slope and the y-intercept of each equation, then graph each line.

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

(y – intercept) b = -1

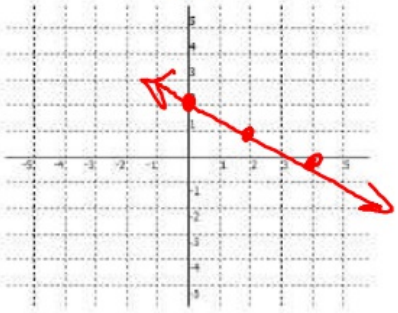
(slope) m = $\frac{3}{4}$



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

(y – intercept) b = 2

(slope) m = $\frac{-1}{2}$



Identify the slope and the *y*-intercept of each graph,

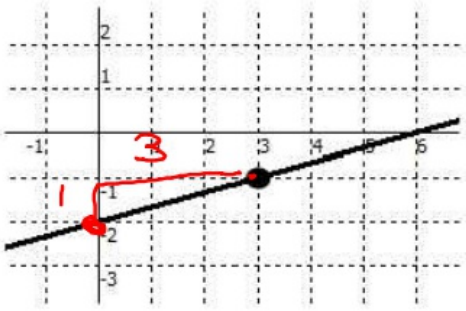
then write the equation of the graph in $y = mx + b$ form.

5. *(y – intercept)* b = -2

(slope) m = $\frac{1}{3}$

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

equation

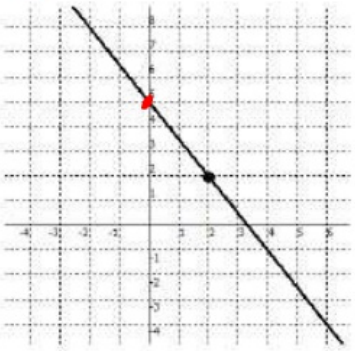


6. *(y – intercept)* b = 5

(slope) m = $\frac{-3}{2}$

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

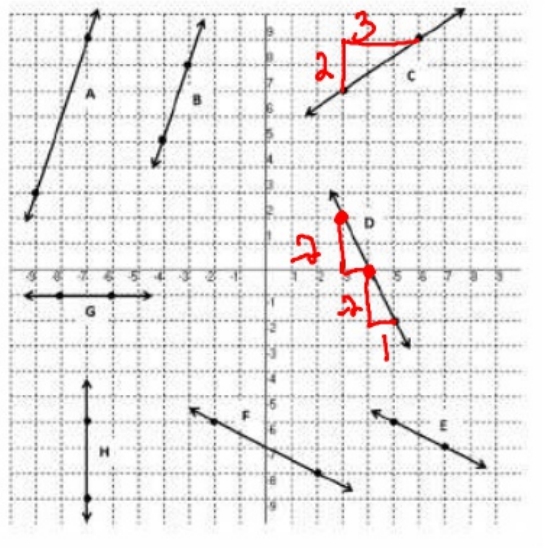
equation



Review for Final Exam 2nd Quarter
Algebra Ib

Name: _____
Period: _____
Date: _____

1.



a) Which lines have a positive slope ? A, B, C

b) Which lines have a negative slope ?

c) Which line has a zero slope ?

d) Which line has an undefined slope ? H

e) Which line has a slope of $\frac{2}{3}$? C

f) Which line has a slope of $\frac{-2}{1}$? D

g) Which line is steeper? Line A or Line C

h) Which lines have the same slope?

2. What is the slope of a line that pass through the points (-2,3) and (4,6)?

Here are some helpful steps

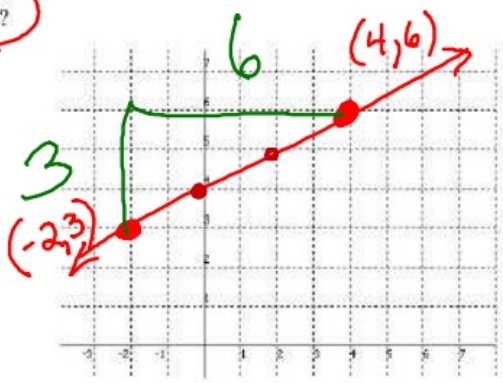
Step 1: Plot the two points

Step 2: Draw a line through them

Step 3: Find the rise 3

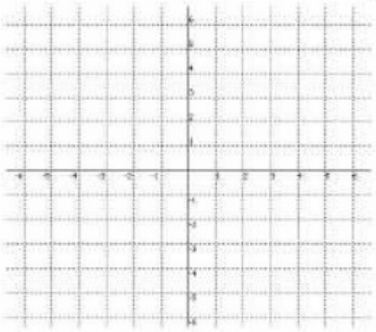
Step 4: Find the run 6

Step 5: Determine the slope $\frac{3}{6}$

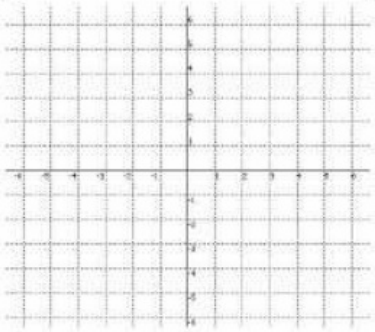


3. Graph the following lines:

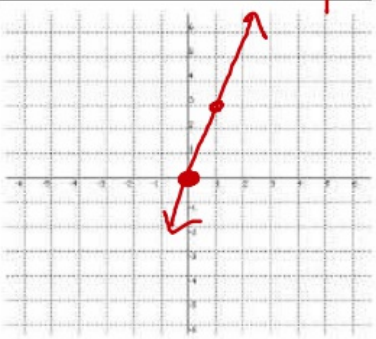
A. $y=\frac{2}{3}x-1$ b = m =



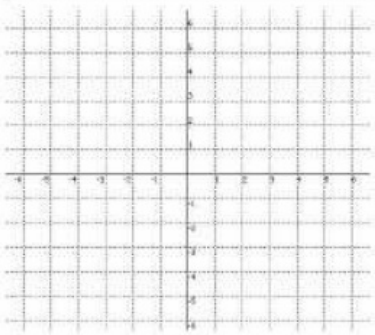
B. $y=-\frac{4}{3}x+5$ b = m =



C. $y=3x$ b = 0 m = $\frac{3}{1}$



D. $y=x$ b = m =



4. Solve the equation for y.

a) $y-5x=-7$

$+5x \quad +5x$

$y=5x-7$

b) $3y=12x+15$

c) $3y-15x=9$

$+15x \quad +15x$

$\frac{3y}{3}=\frac{15x}{3}+\frac{9}{3}$

$y=5x+3$

d) $3x+2y=8$

5. What is the slope of the following linear equation: $2y-8x=20$ (hint: first solve for y)

$+8x \quad +8x$

$\frac{2y}{2}=\frac{8x}{2}+\frac{20}{2}$

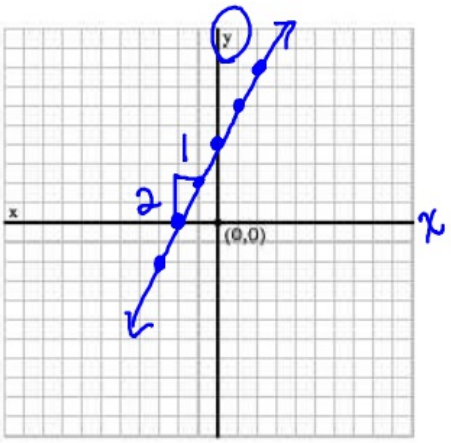
$y=4x+10$

$m=\frac{4}{1}$

6. What is the linear equation of the relationship?

x	y
-3	-2
-2	0
-1	2
0	4
1	6
2	8

+1 +2



a) *y*-intercept: 4

b) Slope: $\frac{2}{1}$

c) equation: $y = \frac{2}{1}x + 4$

7. What is the linear equation that represents the pattern below?

a) *y*-intercept: 3

b) Slope: 4

c) equation: $y = \frac{4}{1}x + 3$

Figure 0:

Figure 1:

Figure 2:

+4 +4

8. What is the linear equation that represents the patterns below?

a) *y*-intercept:

b) Slope:

c) equation:

Figure 2:

Figure 3:

Figure 4:

9. An electrician charges $70 for making a service call plus $25 per hour of work.
What is the equation for the total cost of the service call if *c* is the total cost and *h* is the number of hours of work?

a) *y*-intercept:

b) Slope:

c) equation:

10. An animal reserve has 50 panda bears, and sends 5 panda bears to a park in a different country each year.
What is the equation for the number of panda bears (*B*) for any number of years (*t*).

a) *y*-intercept: 50

b) Slope: −5

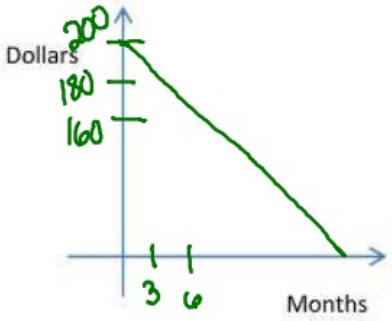
c) equation: $y = -5x + 50$

$B = -5t + 50$

11. The table shows the amount of money in your bank account over time.

Months	Dollars
0	200
3	180
6	160
9	140

+3 ↓ −20 ↓



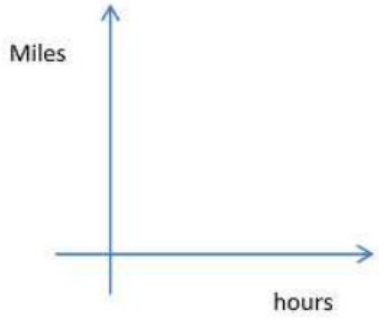
a) Determine the rate *(slope)* at which you are spending money: $\frac{-20}{3}$

b) Determine the initial (beginning) value: 200

c) Write the equation: $y = -\frac{20}{3}x + 200$

12. The table shows the distance a train travel over time.

Hours	1	2	3	4
Miles Traveled	70	140	210	280



a) Determine how fast (miles per hour) the train is traveling: _____

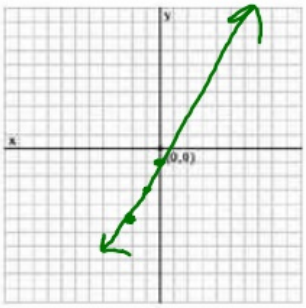
b) Determine the initial (beginning) value: _____

c) Write the equation: _____

13. Draw each of the graphs given the table of values, then write the equation of each line.

a.

x	y
-2	-5
-1	-3
0	-1
1	1
2	3



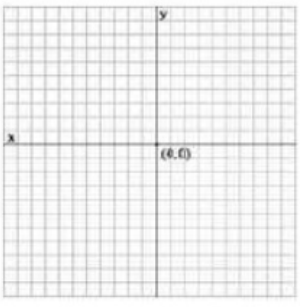
slope: $\frac{2}{1}$

y-intercept: −1

equation: $y = \frac{2}{1}x - 1$

b.

x	y
-3	9
0	5
3	1
6	-3
9	-7

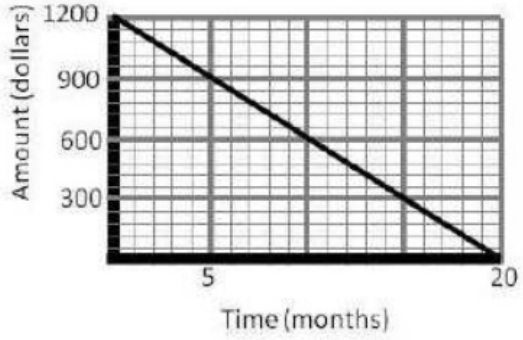


slope: ____

y-intercept: ____

equation: _____

14. Carrie is buying a computer. The store has a payment plan where she will pay $60 per month. The graph below represents the amount of remaining money due to the store.



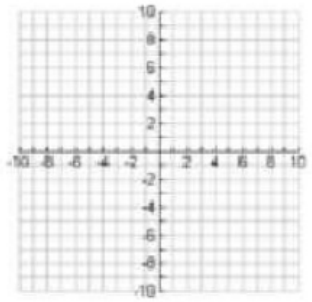
a) What was the initial cost of the computer?_____
What did you use to help you determine the initial cost? _____

b) How long did it take to pay off the computer? _____
What did you use to help you determine the time? _____

c) At what rate did Carrie pay off the computer? _____
What part of the graph represents the rate? _____

15. What is the ***slope*** of the line that contains the points (-7, 9) and (-5, 3)

You can use the graph to help figure out the answer.



16. Determine if the slope of each table is positive, negative, zero or undefined.

a.

Days	10	20	30	40
Gallons	100	80	60	40

b.

Minutes	1	2	3	4
Number of sit-ups	40	80	120	160

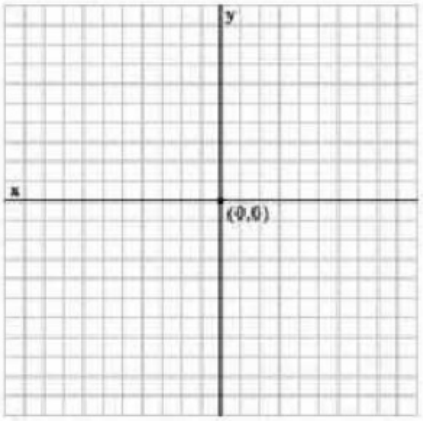
c.

Years	20	22	24	26
Feet	6	6	6	6

17. Graph the following equations

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

b. $y = 4x + 1$

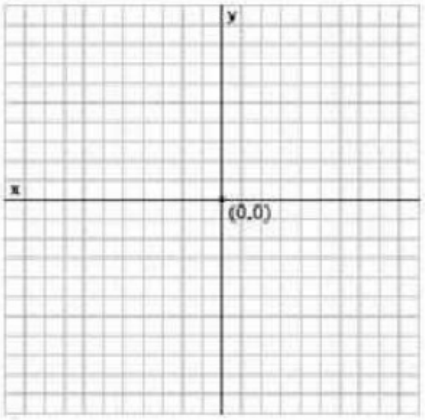


Which graph has a steeper slope?

18. Graph the following equations:

a. $y = 2x$

b. $y = 2x - 4$



How did the second graph change compared to the first?