

1. Find the slope and y-intercept and write an equation of the line in slope-intercept form for each of the following tables:

Table A:

x	y
-2	3
-1	5
0	7
1	9
2	11

Table B:

x	y
-3	5
-2	2
-1	-1
0	-4
1	-7

$m = \frac{\Delta y}{\Delta x} = \frac{2}{1} = 2$
slope = 2

y-intercept: (0, 7)

Equation:

$y = 2x + 7$

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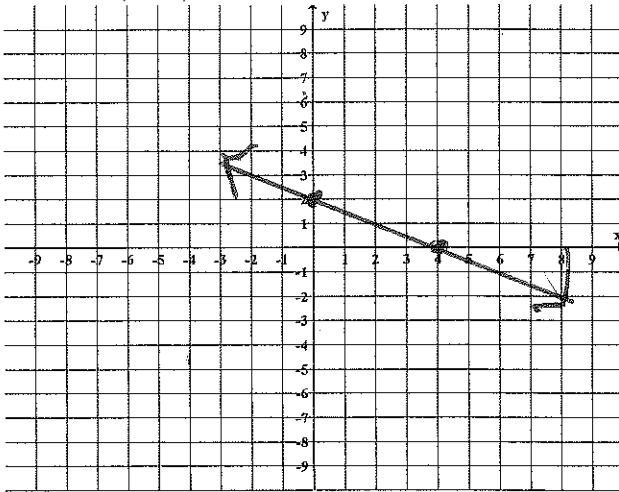
slope = -3

y-intercept: (0, -4)

Equation:

$y = -3x - 4$

2. Graph the linear function $2x + 4y = 8$ and write the x-intercepts and y-intercepts as ordered pairs.



x-intercept: (4, 0) when $y = 0$

$2x = 8$

$x = 4$

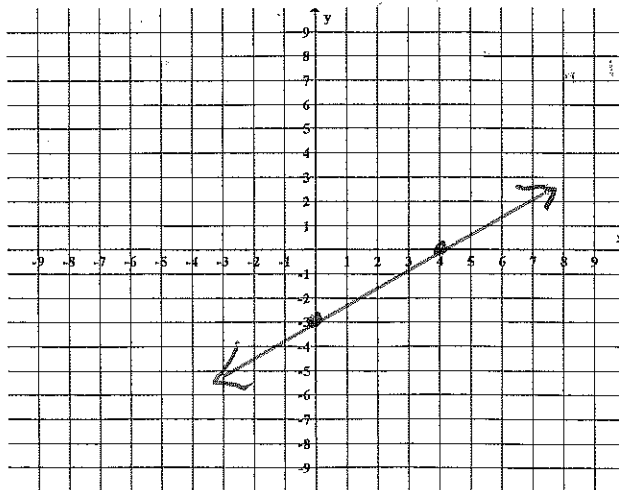
y-intercept: (0, 2)

when $x = 0$

$4y = 8$

$y = 2$

3. Graph the linear function $3x - 4y = 12$ and write the x-intercepts and y-intercepts as ordered pairs.



x-intercept: (4, 0) when $y = 0$

$3x = 12$

$x = 4$

y-intercept: (0, -3) when $x = 0$

$-4y = 12$

$y = -3$

-2	2
-1	-1
0	-4
1	-5

4. Find the slope and y-intercept of the line containing the points (1, -7) and (-2, 2), and write the equation in slope-intercept form.

Slope: -3 y-intercept: (0, -4) Equation: $y = -3x - 4$

$-3 \left(\begin{array}{c|c} x & y \\ \hline 1 & -7 \\ -2 & 2 \end{array} \right) + 9 \quad m = \frac{-9}{3} = -3$

use $y = mx + b$
 pick a point: (-2, 2)
 substitute in x, y, m
 & solve for b

$m = -3 \quad (-2, 2)$
 $2 = -3(-2) + b$
 $2 = 6 + b$
 $-4 = b$

5. Find the slope and y-intercept of the line containing the points (2, 7) and (-2, 5), and write the equation in slope-intercept form.

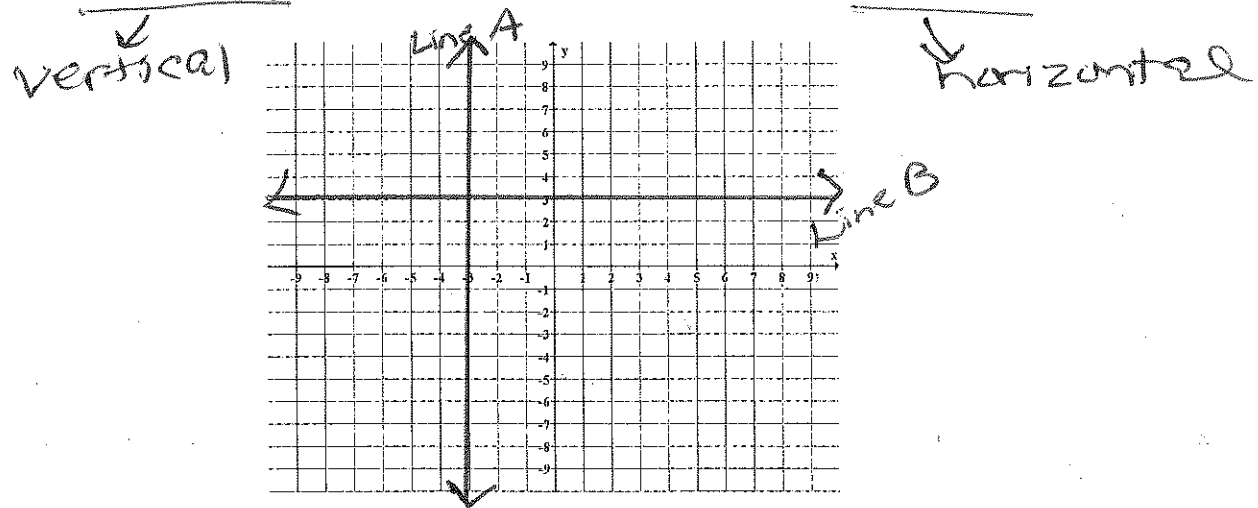
Slope: 5 or $\frac{1}{2}$ y-intercept: (0, 6) Equation: _____

$-4 \left(\begin{array}{c|c} x & y \\ \hline 2 & 7 \\ -2 & 5 \end{array} \right) - 2 \quad m = \frac{-2}{-4} = \frac{1}{2}$

use above method
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$y = ax + b$
 $a = .5$
 $b = 6$

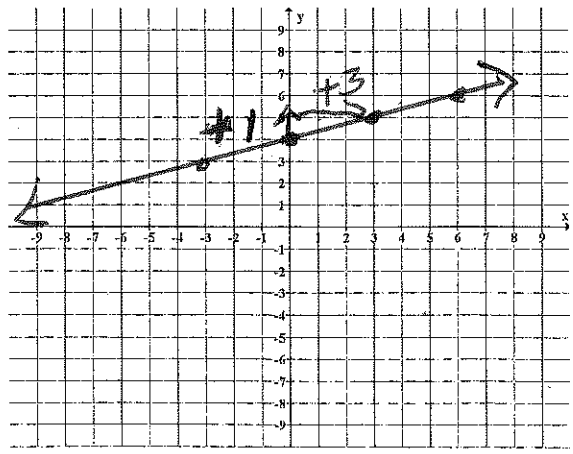
6. Graph a line with undefined slope and label it Line A. Next, graph a line with zero slope and label it Line B.



7. Graph the equation $y = \frac{1}{3}x + 4$.

- Start at b
y-intercept

- Use slope
 $\frac{\text{rise}}{\text{run}} \quad \frac{1}{3}$
 ↑
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STAT CALC
 enter $y =$
 then 2nd table
 find 3 point
 graph

x	y
-3	3
0	4
3	5

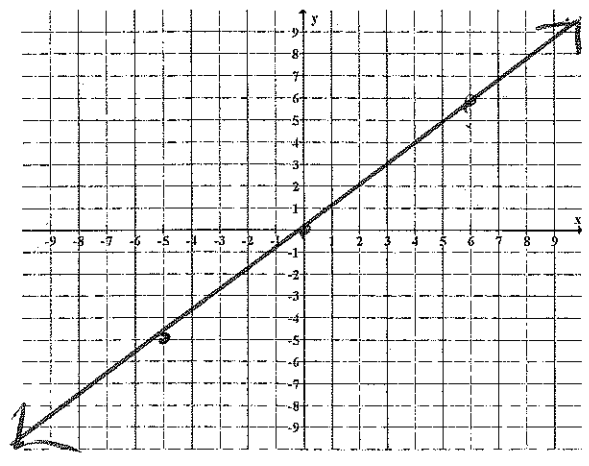
8. Write the equation of a line in slope-intercept form that has a y-intercept of 6 and a slope of -3.

$y = mx + b$
 $y = -3x + 6$

9. Graph the parent function on the coordinate plane below.

$y = x$

x	y
-5	-5
0	0
6	6

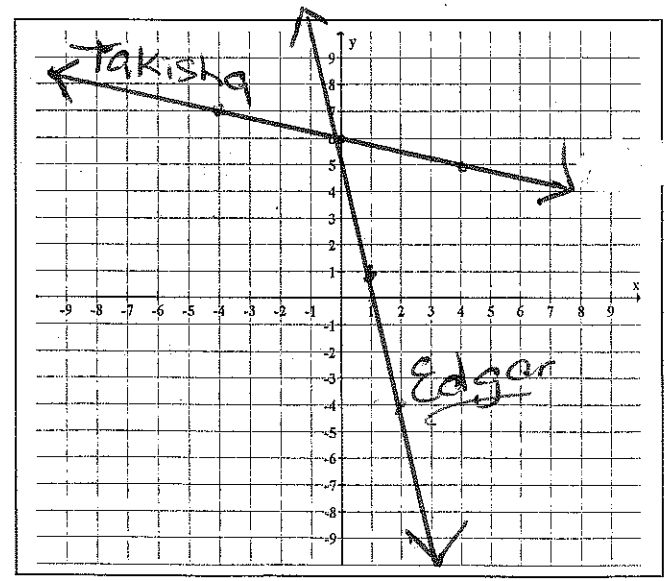


10. Sally graphed the equation $y = 2x - 5$. Tim translated Sally's equation 8 units up. What is slope, y-intercept, and equation of the new line?

Slope: 2 y-intercept: (0, 3) Equation: $y = 2x + 3$
(m) same $-5 + 8 = 3$

11. Takisha graphed the equation $y = -\frac{1}{4}x + 6$. Edgar decided to change the slope to -5 and graph the new line. Answer the following questions about Edgar's new graph compared to Takisha's graph.

- a. Is the line steeper or flatter?
Steeper $-5 > -\frac{1}{4}$ magnitude
- b. Did the direction of the slope change?
No, both negative slopes
- c. Did the y-intercept of the new graph change?
No, only the slope so just the steepness of the graph



12. Write the equation of a line that is ^{same slope} parallel and ^{b+5} five units above the graph of $y = -2x - 3$. +5

$$y = -2x + 2$$

13. Write the equation of a line that is ^{b-3} parallel and three units below the graph of $y = \frac{1}{2}x - 6$. -3

$$y = \frac{1}{2}x - 9$$

14. Clean-It-Out Plumbing Company charges \$25 per hour plus a service call fee when called to repair a plumbing problem. The company uses the equation $C = 25h + 50$ to calculate the charges, C , for the number of hours, h , on the job.

a. What is the ^{slope} rate of change? \$25 per hour

b. What is the ^{y-intercept} service call fee? \$50

c. What would the charges be for 8 hours?

$$\begin{aligned} F \quad C &= 25h + 50 \\ S \quad C &= 25(8) + 50 \\ S \quad C &= 250 \end{aligned}$$

\$250

15. Sam received an iTunes gift card. Each time he downloads a song to his iPod, \$1.50 is deducted from his card. When he had downloaded 12 songs he had a balance of \$12. The relationship is represented in the table below.

a. Write an equation to represent this situation.

$$y = 30 - 1.50x$$

or

$$y = -1.50x + 30$$

b. Write the y-intercept as an ordered pair. What does it represent in the situation?

$(0, 30)$ - this is the initial balance on the card.

Number of songs downloaded	Balance on card
0	30
4	24
8	18
12	12

starting balance
y-intercept

c. What is the rate of change? What does it represent in the situation?

-1.50 dollars per song
This is the amount of money deducted for each song downloaded

d. How much money will Sam have left in his account when he downloads 18 songs?

$$\begin{aligned} F \quad y &= 30 - 1.50x \\ S \quad y &= 30 - 1.50(18) \\ S \quad y &= 3 \end{aligned}$$

\$3