

4.2 Practice: TABLE METHOD

Date

Nov 2023

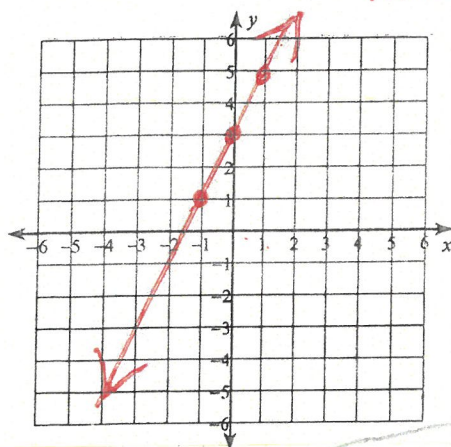
Period _____

Graph each line...

(1) rewrite in function notation; (2) create a table with 3 points; (3) graph the line.

1) $y = 2x + 3$

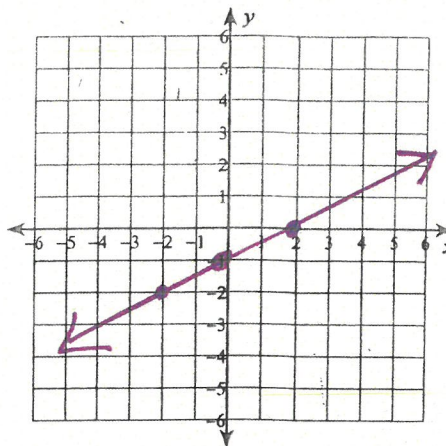
before x is an integer so use $x = -1, 0, 1$



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

WITH NO DECIMALS

When the # before x is a fraction, use MULTIPLES OF DENOMINATOR



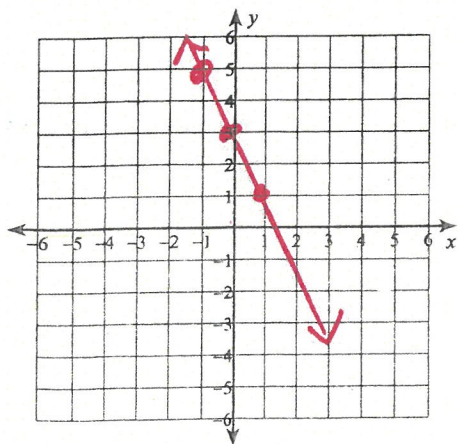
x	y
-2	-2
0	-1
2	0

mental work

x	y
-1	1
0	3
1	5

$\rightarrow y = 2(-1) + 3 = 1$
 $\rightarrow y = 2(0) + 3 = 3$
 $\rightarrow y = 2(1) + 3 = 5$

3) $2x + y = 3$ ← PUT INTO $y = mx + b$ (see below)



$$\begin{array}{r} 2x + y = 3 \\ -2x \quad -2x \\ \hline y = -2x + 3 \end{array}$$

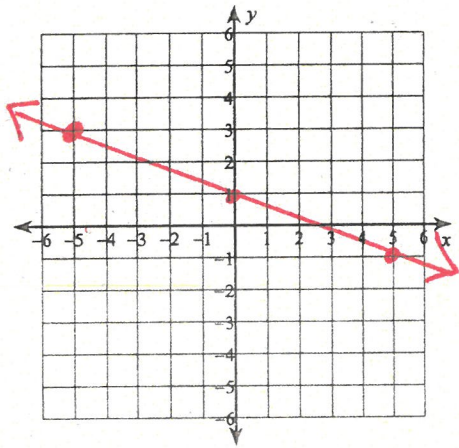
x	y
-1	5
0	3
1	1

GRAPHING USING THE TABLE METHOD

- ① PUT EQ IN $y = \underline{\hspace{2cm}}$
- ② Create a table with 3 ordered pairs

x	y
- ③ PICK EASY X VALUES
EX1 use $x = -1, 0, 1$
EX2 use $x = -2, 0, 2$
- ④ PLOT THE POINTS
- ⑤ DRAW A LONG STRAIGHT LINE WITH ARROWS

4) $2x + 5y = 5$

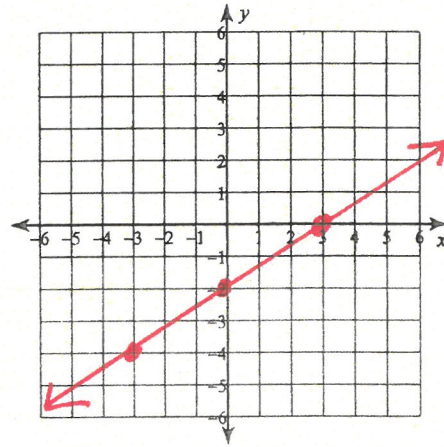


(4)
$$\begin{array}{r} 2x + 5y = 5 \\ -2x = -2x \hline 5y = -2x + 5 \end{array}$$

$s/I: y = -\frac{2}{5}x + 1$

x	-5	0	5
y	3	1	-1

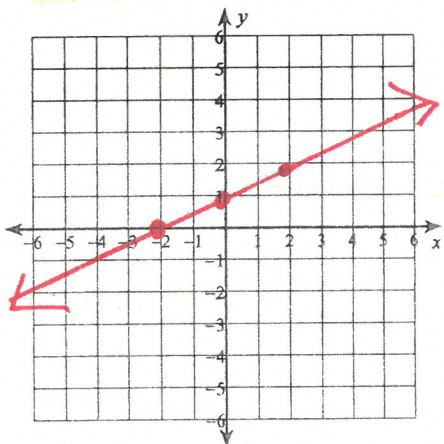
5) $2x - 3y = 6$



(5)
$$\begin{array}{r} 2x - 3y = 6 \\ -2x \\ \hline -3y = -2x + 6 \\ \hline -3 \\ \hline \end{array}$$

$$\begin{array}{c|c|c|c} x & -3 & 0 & 3 \\ \hline y & -4 & -2 & 0 \end{array}$$

6) $x - 2y = -2$



⑥ $x - 2y = -2$
 $-x$ $-x$ $\implies -1$
 so $-\frac{1}{2}x = \frac{1}{2}x$

$$\begin{array}{c|ccc} x & -2 & 0 & 2 \\ \hline y & 0 & 1 & 2 \end{array}$$

4-3 Quiz Intercept Rapid Graphing

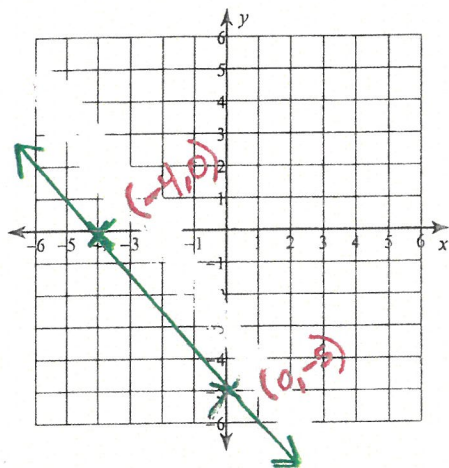
Date _____ Period _____

Graph the linear function using the intercept method.

(1) For each intercept provide the ordered pairs... X: (#,#) and Y: (#,#)

(2) Label the intercepts on the graph with X and Y.

1) $5x + 4y = -20$



X: $5x = -20$

$x = -4$

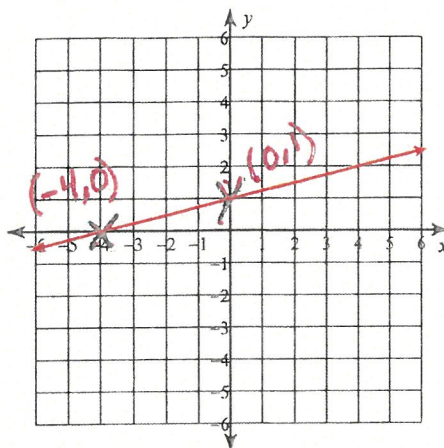
$(-4, 0)$

Y: $4y = -20$

$y = -5$

$(0, -5)$

2) $x - 4y = -4$



X: $x = -4$

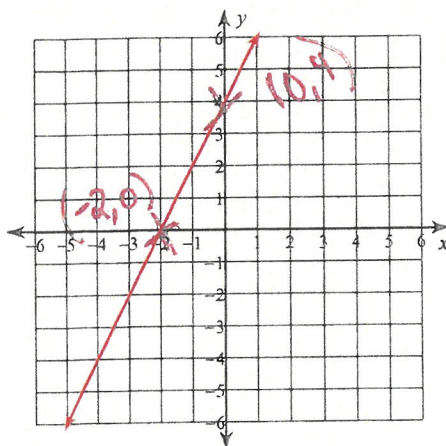
$(-4, 0)$

Y: $-4y = -4$

$y = 1$

$(0, 1)$

3) $2x - y = -4$



X: -2

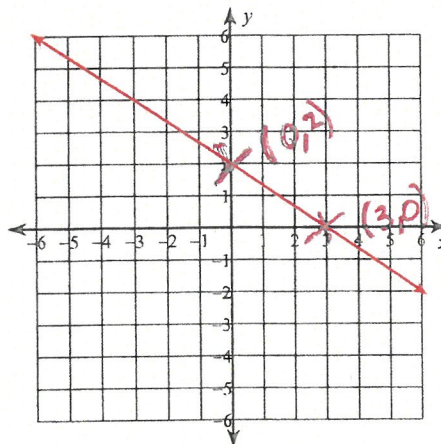
$(-2, 0)$

Y: 4

$(0, 4)$

$y = 4$

4) $2x + 3y = 6$



X: 3

$(3, 0)$

Y: 2

$(0, 2)$

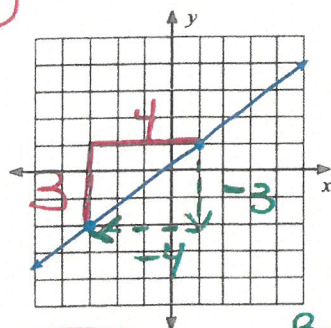
$y = 2$

4.4c Slope (rise over run)

Date _____ Period _____

Find the slope of each line. Clearly show work and use the correct variable (m)

1)



Show
this work
that is in
Red

Top Δ

$$m = \frac{3}{4}$$

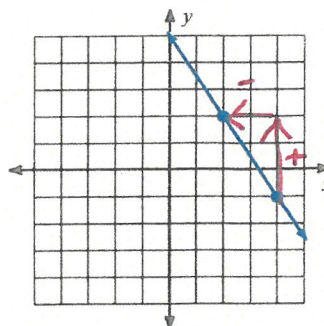
Label Variable

Bottom Δ

$$m = \frac{-3}{-4}$$

$$m = 3/4$$

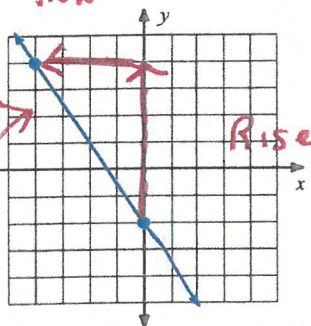
2)



$$m = \frac{3}{-2}$$

3)

Run

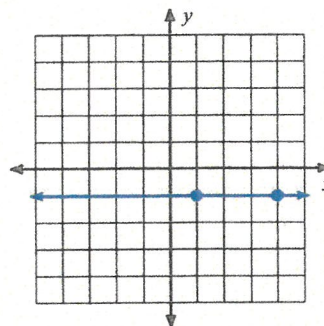


Rise

$$m = \frac{6}{-4}$$

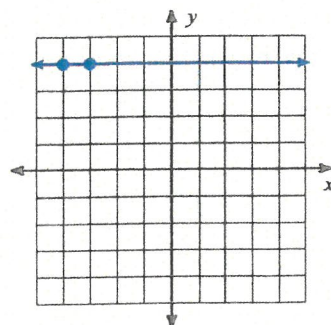
$$m = -3/2$$

4)



$$m = \frac{0}{3} \Rightarrow m = 0$$

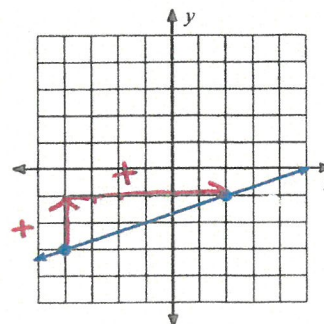
5)



$$m = \frac{\text{Rise}}{\text{Run}} = \frac{0}{1}$$

$$m = 0$$

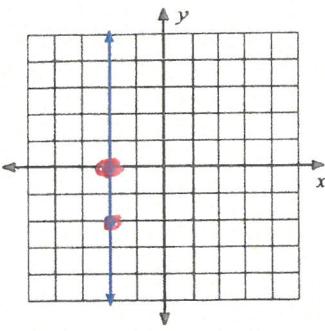
6)



$$m = \frac{1}{2}$$

$$m = 1/2$$

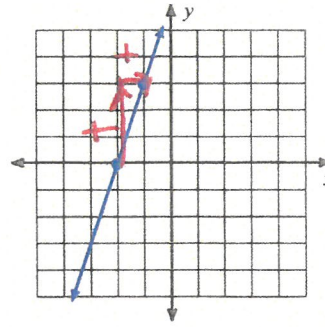
7)



$$m = \frac{\text{Rise}}{\text{Run}} = \frac{2}{0}$$

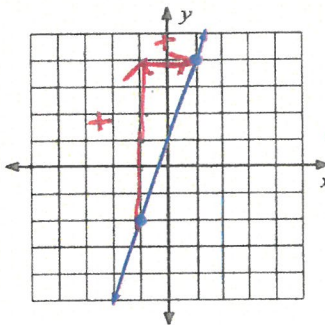
$m = \text{UNDEFINED}$

8)



$$m = \frac{3}{1} \text{ or } 3$$

9)

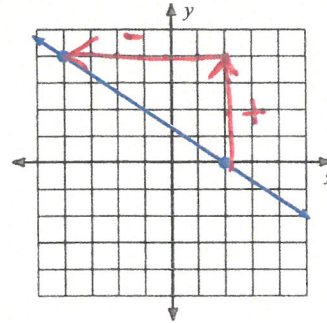


← Think
+m

$$m = \frac{6}{2}$$

$$m = 3 \text{ or } 3/1$$

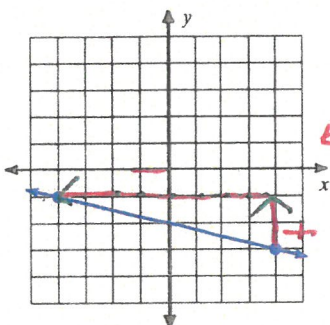
10)



$$m = \frac{4}{-6}$$

$$m = -2/3$$

11)



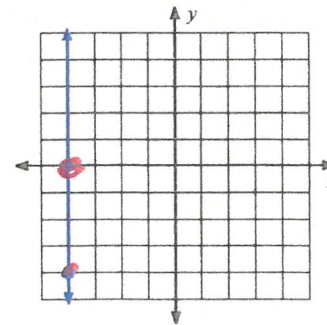
← Think
-m

$$m = +2$$

$$-8$$

$$m = -1/4$$

12)



$$m = \frac{0}{4}$$

$m = \text{UNDEFINED}$

NOTES

+m

-m

m = 0

m = UNDEFINED

4.4d Practice (slope with 2 points)

Date _____ Period _____

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

1) (5, -13), (19, 15)

WRITE!

$$m = \frac{15 - (-13)}{19 - 5} = \frac{28}{14}$$

Reduced

$$m = \frac{2}{1} \text{ or } 2$$

2) (19, 19), (5, 12)

$$m = \frac{12 - 19}{5 - 19} = \frac{-7}{-14}$$

$$m = \frac{1}{2}$$

3) (13, 12), (3, 16)

$$m = \frac{16 - 12}{3 - 13} = \frac{4}{-10}$$

Reduce

$$m = -\frac{2}{5}$$

$$-\frac{2}{5} = \frac{2}{-5} = -\frac{2}{5}$$

4) (-7, -16), (-9, -1)

$$m = \frac{-1 - (-16)}{-9 - (-7)} = \frac{15}{-2}$$

$$m = -\frac{15}{2} \text{ or } \frac{15}{-2}$$

5) (6, 9), (6, -10)

$$m = \frac{-10 - 9}{6 - 6} = \frac{-19}{0}$$

$$m = \text{UNDEFINED}$$

6) (12, 3), (12, -10)

$$m = \frac{-10 - 3}{12 - 12} = \frac{-13}{0}$$

$$m = \text{UNDEFINED}$$

NOTES

Given 2 pts

 $(x_1, y_1), (x_2, y_2)$
 PT1 ↑ PT2 ↑

$$m = \frac{\Delta y}{\Delta x}$$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

or

PT1 - PT2

$$m = \frac{y_1 - y_2}{x_1 - x_2}$$

PT1 - PT2

$$m = \frac{9 - (-10)}{6 - 6} = \frac{19}{0}$$

m = UNDEFINED

7) $\begin{matrix} x & y \\ (1, -10) & (13, -10) \end{matrix}$

$$m = \frac{-10 - (-10)}{13 - 1} = \frac{0}{12}$$

Δy

Δx

$m = 0$

8) $(-10, -2), (18, -2)$

$$m = \frac{-2 - (-2)}{18 - (-10)} = \frac{0}{28}$$

$m = 0$

9) $(19, 10), (17, -15)$

$$m = \frac{-15 - 10}{17 - 19} = \frac{-25}{-2}$$

$m = \frac{25}{2}$

10) $(12, 7), (-18, -3)$

$$m = \frac{-3 - 7}{-18 - 12} = \frac{-10}{-30}$$

$m = \frac{1}{3}$

11) $(4, -13), (0, 13)$

$$m = \frac{13 - (-13)}{0 - 4} = \frac{26}{-4}$$

$m = -\frac{13}{2}$

Reduced
improper
fraction

12) $(-16, 4), (-20, 20)$

$$m = \frac{20 - 4}{-20 - (-16)} = \frac{16}{-4}$$

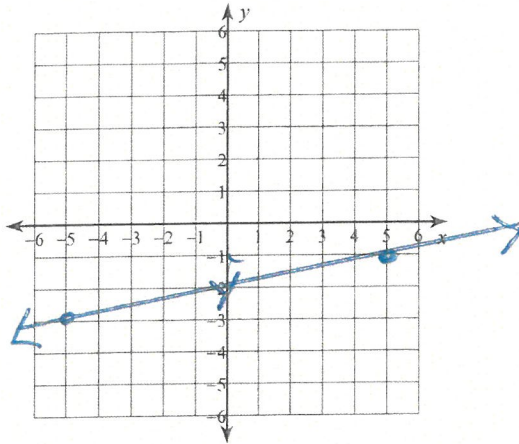
$m = -4$

4-5 Slope-Intercept Rapid Graphing

Date _____ Period _____

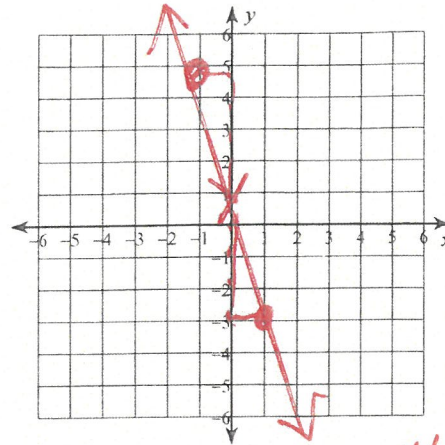
Sketch the graph of each line.

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



$$m = \frac{1}{5} \quad b = -2$$

2) $y = -4x + 1$



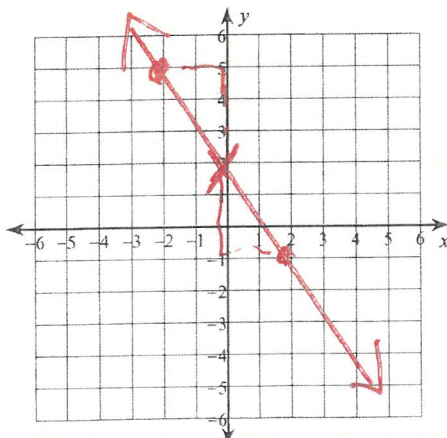
$$m = -4/1$$

$$b = 1$$

S/I Graphing

- ① put into $y = mx + b$
- ② on graph label yint with a "y"
- ③ CLEARLY SHOW 2 ADDITIONAL POINTS THAT FIT ON THE GRAPH
- ④ MUST STATE
 $m =$
 $b =$

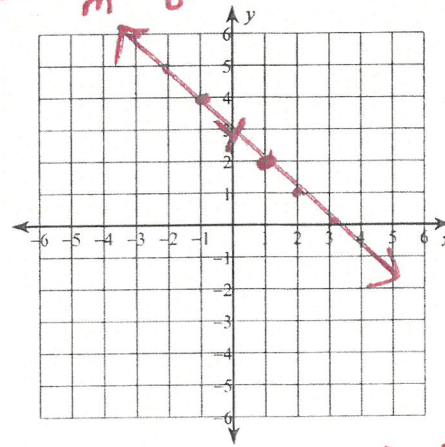
3) $y = -\frac{3}{2}x + 2$



$$m = -\frac{3}{2}$$

$$b = 2$$

4) $y = -x + 3$



$$m = -1 \text{ or } -\frac{1}{1}$$

$$b = 3$$

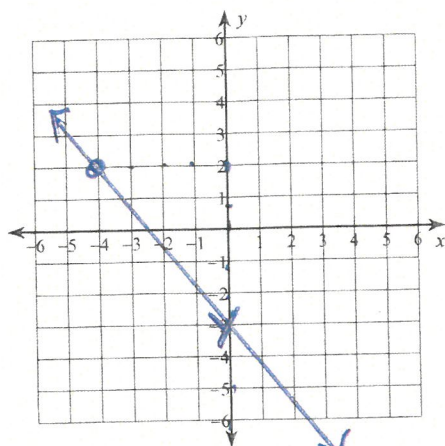
$$\text{implied } -1 \Rightarrow y = -1 \cdot x + 3$$

$$m \quad b$$

STANDARD FORM

Graph the linear function using slope and y-intercept. Identify the slope and y-intercept

5) $5x + 4y = -12$

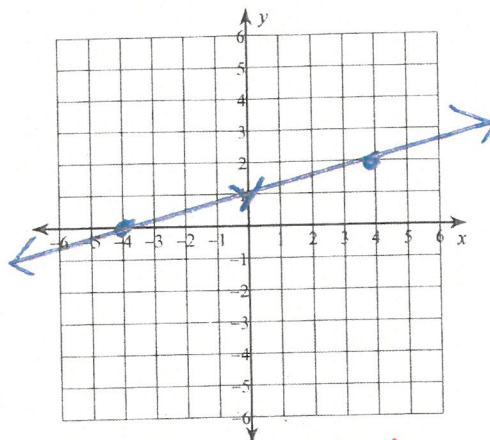


$$\begin{array}{r} 5x + 4y = -12 \\ -5x \quad -5x \\ \hline 4y = -5x - 12 \\ \frac{4y}{4} = \frac{-5x}{4} - \frac{12}{4} \\ y = -\frac{5}{4}x - 3 \end{array}$$

s/i

$$\begin{array}{l} m = -5/4 \\ b = -3 \end{array}$$

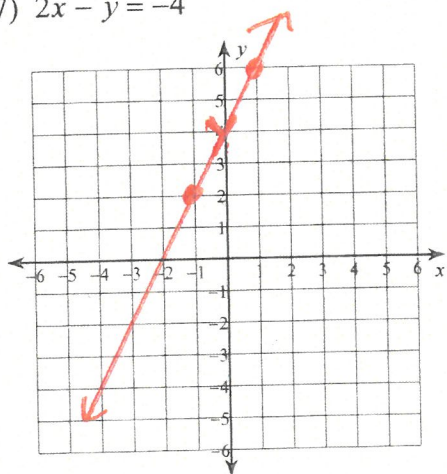
6) $x - 4y = -4$



$$\begin{array}{r} x - 4y = -4 \\ -x \quad -x \\ \hline -4y = -x - 4 \\ \frac{-4y}{-4} = \frac{-x}{-4} - \frac{4}{-4} \\ y = \frac{1}{4}x + 1 \end{array}$$

$$\begin{array}{l} m = 1/4 \\ b = 1 \end{array}$$

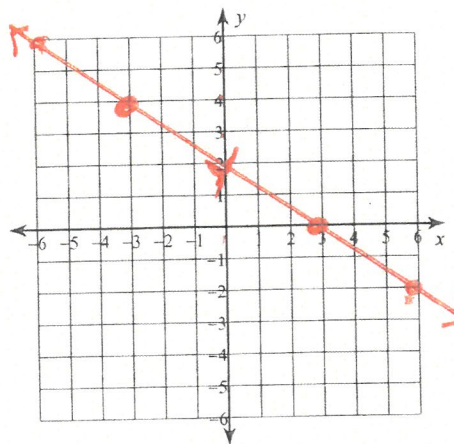
7) $2x - y = -4$



$$\begin{array}{r} 2x - y = -4 \\ -2x \quad -2x \\ \hline -y = -2x - 4 \\ \frac{-y}{-1} = \frac{-2x}{-1} - \frac{4}{-1} \\ y = 2x + 4 \end{array}$$

$m = 2/1$ $b = 4$

8) $2x + 3y = 6$



$$\begin{array}{r} 2x + 3y = 6 \\ -2x \quad -2x \\ \hline 3y = -2x + 6 \\ \frac{3y}{3} = \frac{-2x}{3} + \frac{6}{3} \\ y = -\frac{2}{3}x + 2 \end{array}$$

$m = -2/3$ $b = 2$

5.3 Practice (H&V Lines) ABBREVIATED

Date _____ Period _____

(1) Find the slope of the line through each pair of points; (2) then state if the line is horizontal, vertical, or neither.

1) (20, 9), (-16, 9)

$$m = \frac{9-9}{-16-20} = \frac{0}{-36}$$

$$m = 0$$

H LINE

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

or

$$m = \frac{\Delta y}{\Delta x}$$

2) (18, 2), (18, 5)

$$m = \frac{5-2}{18-18} = \frac{3}{0}$$

$$m = \text{UNDEFINED}$$

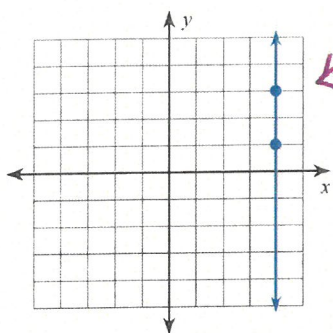
V LINE

3) skip

4) skip

Find the slope of each line. Label with the correct variable notation.

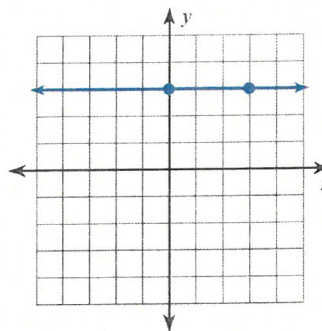
5)



M=UNDEFINED

Work optional

6)



M=0

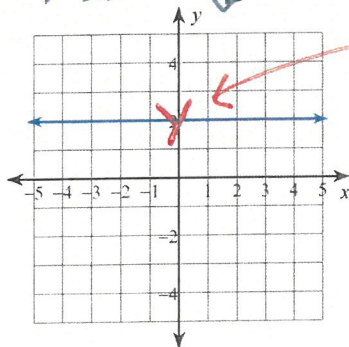
Work optional

7) skip

8) skip

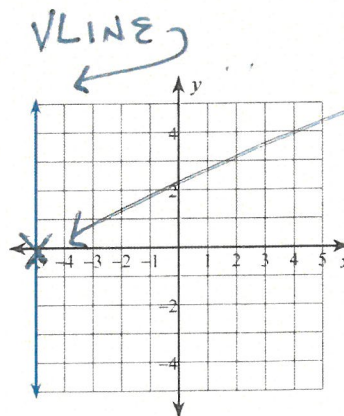
Write the equation of each line.

9)

y-int
EQ is

$$y = 2$$

10)

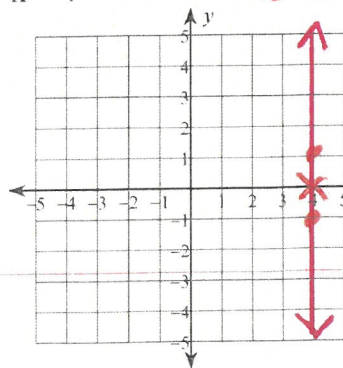
X-INT
EQ is

Graph each line:

11) $x = 4$

2 WAYS TO GRAPH

12) $y = -3$



INTERCEPTS

X: (4, 0) Y: (0, -3)

CREATE TABLE

X	Y
1	-1
4	0
4	1

X	Y
-1	-3
0	-3
1	-3

