

### Unit 4- Graphing Linear Equations - REVIEW

Rewrite the equation in function form ( $y = mx + b$ )

1)  $5x + y = 4$   
 $-5x \quad -5x$

$y = -5x + 4$

2)  $3x - y = 9$   
 $-3x \quad -3x$   
 $-y = -3x + 9$   
 $\frac{-y}{-1} = \frac{-3x + 9}{-1}$

$y = 3x - 9$

3)  $-x + y = 17$   
 $+x \quad +x$

$y = x + 17$

4)  $5y - 2x = 15$   
 $+2x \quad +2x$

$5y = 2x + 15$   
 $\frac{5y}{5} = \frac{2x + 15}{5}$   
 $y = \frac{2}{5}x + 3$

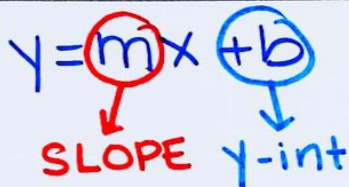
5)  $3(y - 2) = 9$

$3y - 6x = 9$   
 $+6x \quad +6x$   
 $3y = 6x + 9$   
 $\frac{3y}{3} = \frac{6x + 9}{3}$   
 $y = 2x + 3$

(6)  $y = 5x - 10$

What is the slope?  $\frac{5}{1}$

What is the y-intercept?  $-10$



(7)  $y = -2x + 5$

b =  $5$

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

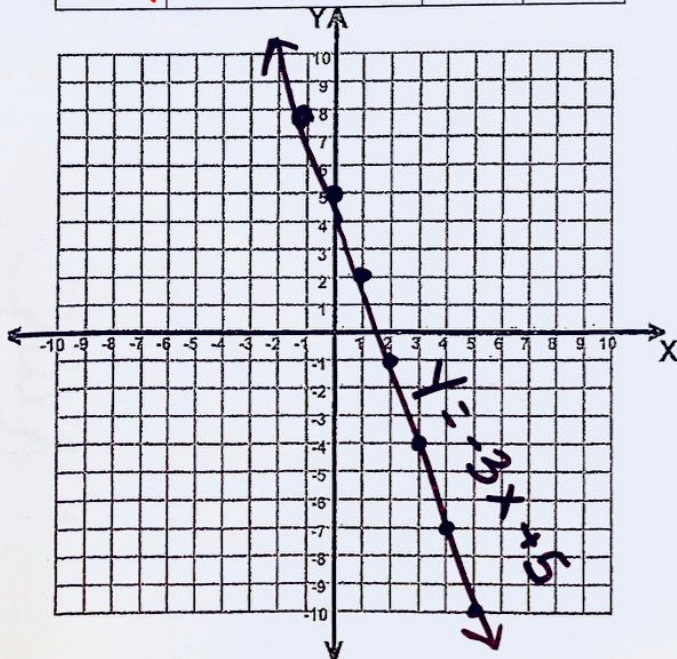
Graph the following lines. Use of the table of values is optional.

i)  $y = -3x + 5$

$m = \frac{-3}{1}$        $b = 5$

x		y	(x,y)

*optional*



Solve for y.

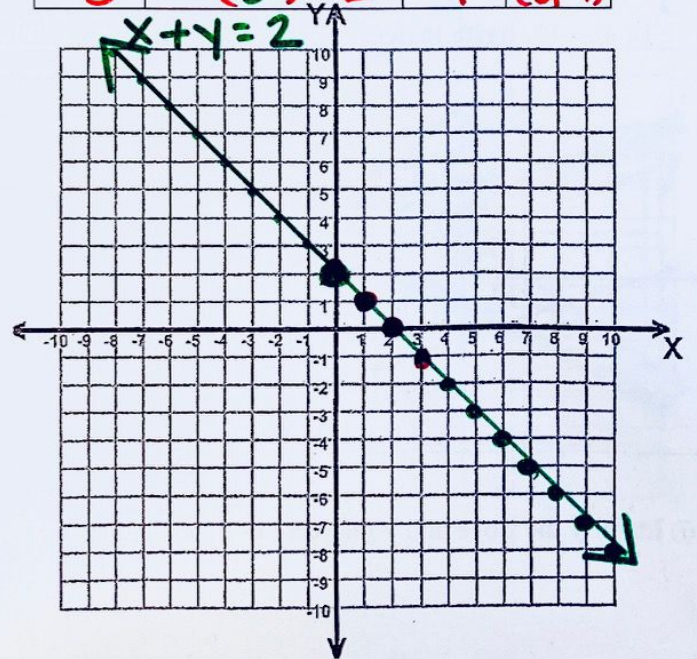
9)  $x + y = 2$   
 $-x \quad -x$

$y = -x + 2$

$m = \frac{-1}{1}$        $b = 2$

*choose x*

x	$-x + 2$	y	(x,y)
0	$-(0) + 2$	2	(0,2)
1	$-(1) + 2$	1	(1,1)
2	$-(2) + 2$	0	(2,0)
3	$-(3) + 2$	-1	(3,-1)



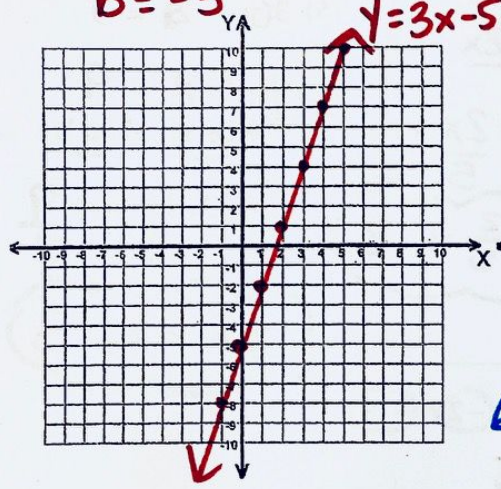


Graph the following lines using the slope-intercept method:

10)  $y = 3x - 5$

$m = \frac{3}{1}$  ↑  
→

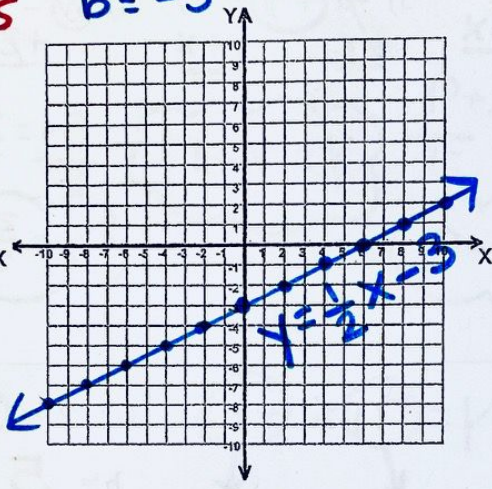
$b = -5$



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

$m = \frac{1}{2}$  ↑  
→

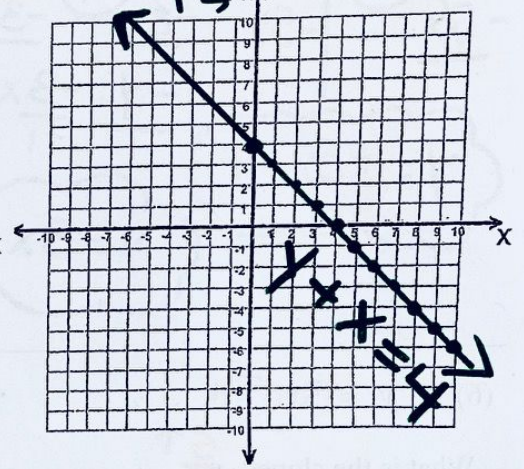
$b = -3$



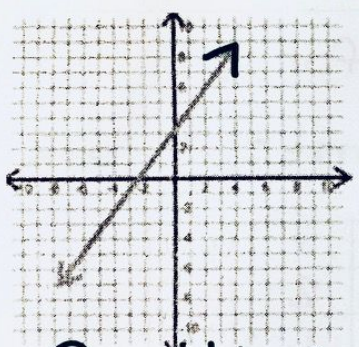
12)  $y + x = 4$   
 $-x \quad -x$

$y = -x + 4$

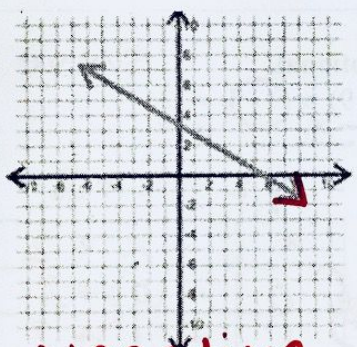
$m = -\frac{1}{1}$  ↓  
→  $b = 4$



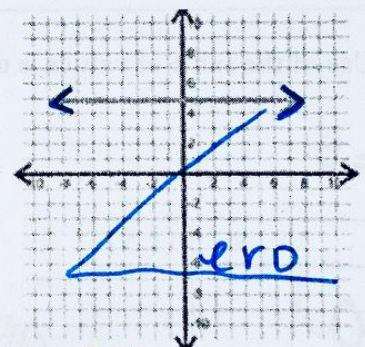
13) Identify each of the following lines as having a positive, negative, zero, or no slope (undefined).



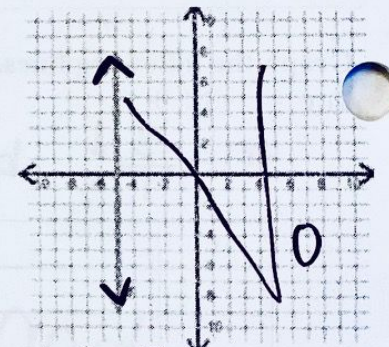
Positive  
(going up)



Negative  
(going down)

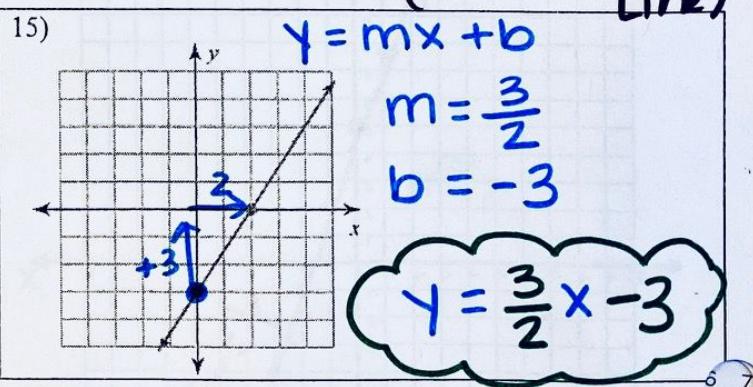
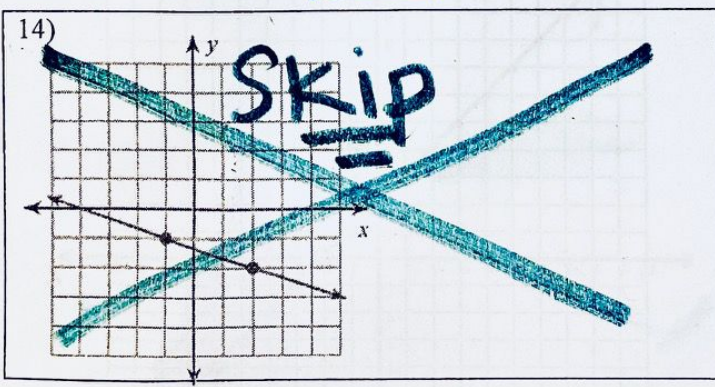


Zero  
(Horizontal  
Line)



No Slope  
(undefined)  
(vertical  
Line)

For 14 and 15, write the equation of the lines shown below.



16) Identify the slope and y intercept of the function  $y = 5x - 2$   $m = \frac{5}{1}$  ↑  
→  $b = -2$



$$y = mx + b$$

7) Write the equation of the linear function that has a slope of -2 and a y-intercept of 8

$$m = -2$$

$$b = 8$$

$$y = -2x + 8$$

8) Graph the linear equation on the coordinate plane below:

$$\begin{aligned} (2y) + 4 &= x \\ -4 & \quad -4 \\ \hline 2y &= \frac{x}{2} - \frac{4}{2} \end{aligned}$$

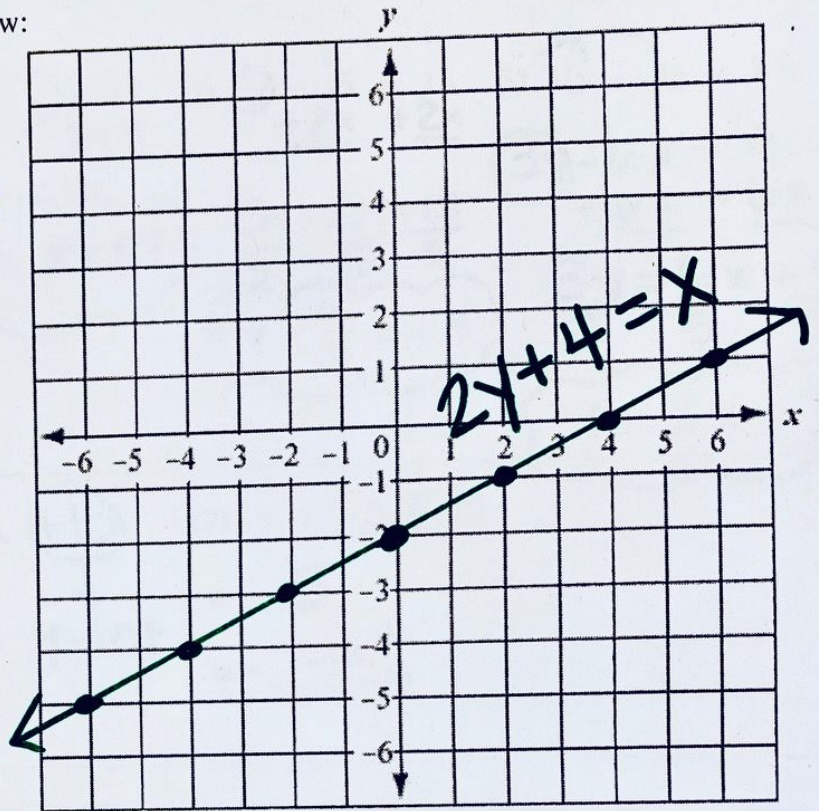
$$y = \frac{1}{2}x - 2$$

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

Begin  $b = -2$

State three solutions to the given equation:  
points on line

(0, -2) (2, -1) (4, 0)



9) Solve the system of equations graphically:

$$y = -\frac{2}{3}x + 0$$

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

$$b = 0$$

$$\frac{3y}{3} = \frac{x-9}{3}$$

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

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

$$b = -3$$

one solution:  
(3, -2)

