

# Notes Sheet: Slope-Intercept Form

## SLOPE INTERCEPT FORM

$$y = mx + b$$

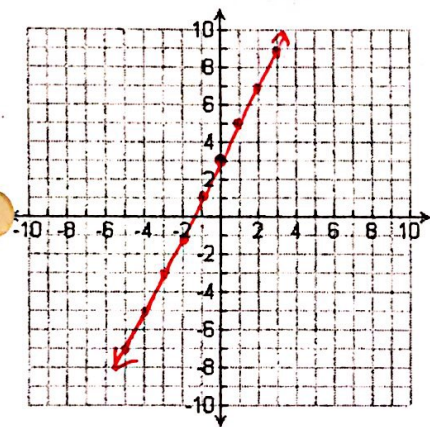
"m" is the slope - it controls how steep the line is  
 - change in y  
 change in x

"b" is the y-intercept - this is where the graph crosses the y-axis

### Graphing an Equation in Slope-Intercept Form

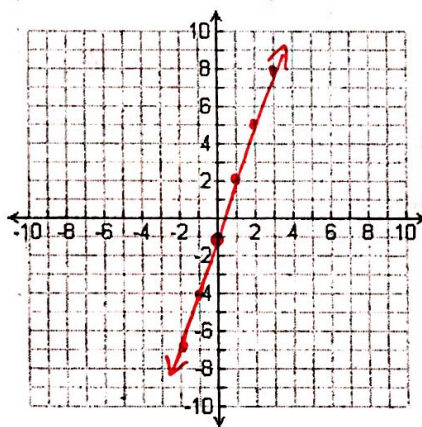
Graph:  $y = 2x + 3$

(0, 3)

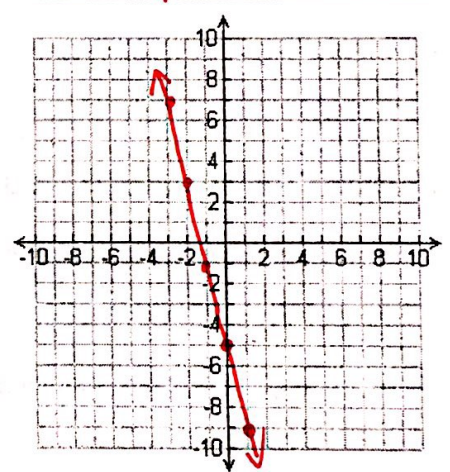


Graph:  $y = 3x - 1$

(0, -1)



Graph:  $y = -4x - 5$

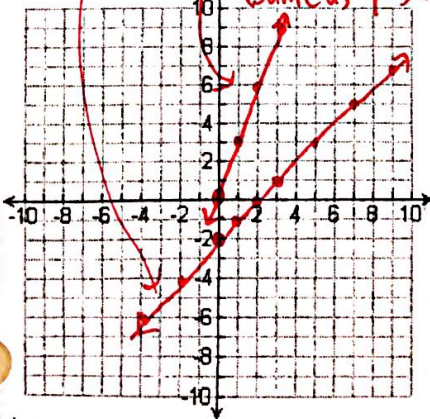


Graph:  $y = x - 2$

slope = 1 → 1

Graph:  $y = 3x$

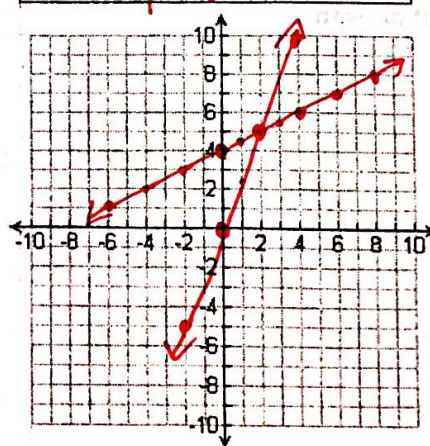
(same as  $y = 3x + 0$ )



Graph:  $y = \frac{5}{2}x$

$\frac{5}{2}$  up  
2 right

Graph:  $y = \frac{1}{2}x + 4$

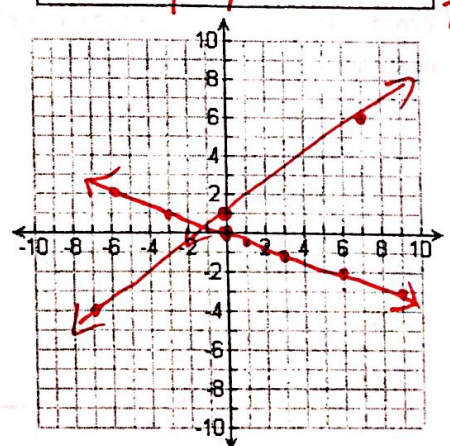


Graph:  $y = -\frac{1}{3}x$

-1 down  
3 right

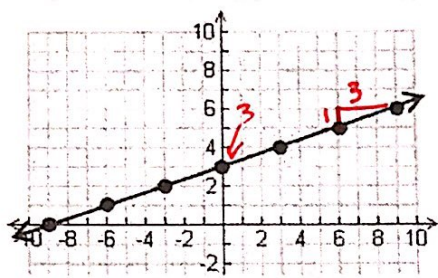
Graph:  $y = \frac{5}{7}x + 1$

5 up  
7 right

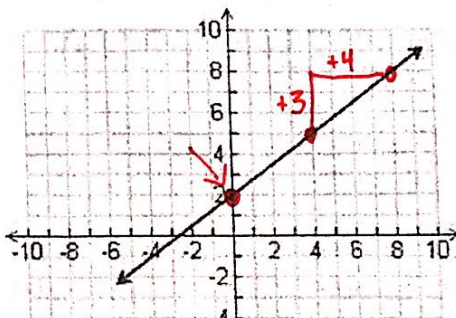




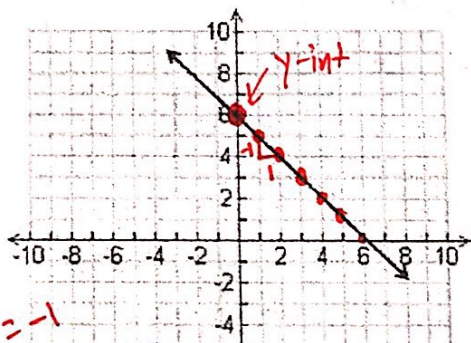
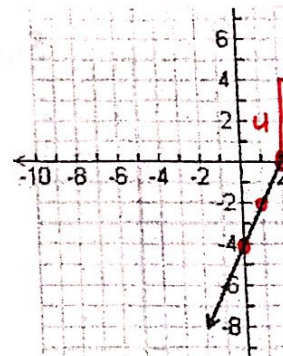
Write an equation in slope-intercept form from the graph:



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

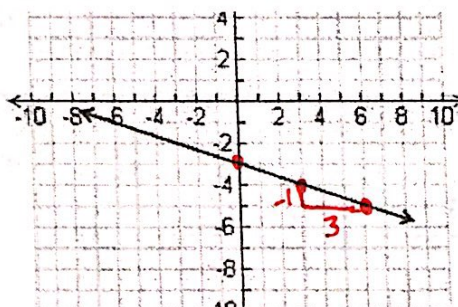


$$y = \frac{3}{4}x + 2$$

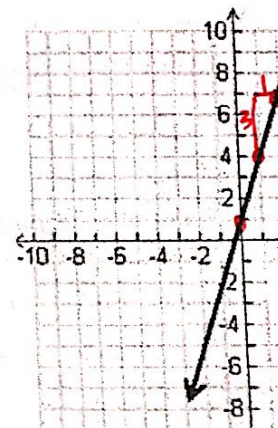


$$-\frac{1}{1} = -1$$

$$y = -1x + 6 \text{ or } y = -x + 6$$



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



$$y = 3x + 1$$

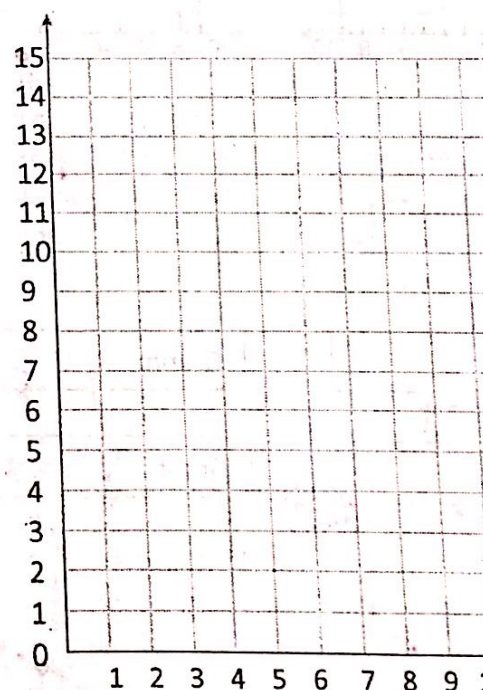
A taxi fare  $y$  can be determined by the equation  $y = 0.50x + 3.50$ , where  $x$  is the number of mile:

What is the graph going to look like? Describe it.

Draw the graph. Label the x- and y-axis.

What is the slope of the line? What does this mean in terms of the situation?

What is the y-intercept of the line? What does this mean in terms of the situation?



IN ANY LINEAR REAL-WORLD SITUATION:

The slope is \_\_\_\_\_

The y-intercept is \_\_\_\_\_