## **GRAPHING** y = mx + b

In order to graph a linear equation in the form y = mx + b we can follow the steps outlined below:

- 1. Plot the y-intercept
- 2. Starting at the y-intercept, use the slope to locate a second point and a third point!
- 3. Connect the points and extend the line in both directions using a ruler.

For each of the following questions:

- a) State the slope and y-intercept
- b) Graph and label the line



**2.** y = -x + 3







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## Slope and y-Intercept (y = mx + b)

4) Write the equation of each line in y = mx + b form using the information given.

a)	Slope = 7 and y-intercept = 9	Equation:
b)	<i>m</i> = -3 and <i>b</i> = 3	Equation:
c)	<i>m</i> = 0 and <i>b</i> = -3	Equation:
d)	$m=rac{7}{2}$ and $b=0$	Equation:

5) Determine the **slope** and **y-intercept** for each of the following equations.

Use the information to **graph** each line on the same xy-plane. Label each line.





6) State the slope and y-intercept of each line, then graph.

a) 
$$y = \frac{2}{3}x - 2$$
 b)  $y = 2x - 4$ 

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

7) State the slope and y-intercept of each line, then graph.

a) 
$$y = -\frac{1}{6}x + 8$$
 b)  $y = \frac{3}{4}x + 2$ 

c) 
$$y = -6 + \frac{2}{5}x$$
 d)  $y = -x$ 

## 8) Graph the following lines and state their Point of Intersection.

$$y = -\frac{4}{5}x + 9$$
  $y = \frac{3}{5}x + 2$ 





