## 4.5: Graph Lines Using Slope – Intercept Form

\*GOAL\* - Rewrite equations so they are in slope – intercept form
Identify slope and y – intercept of a line from an equation
Identify slope and y – intercept of a line graphed
Use slope – intercept form to graph a line

## **Slope – Intercept Form:**

y = mx + b m = slope, always the coefficient of xb = y-intercept, always being added or subtracted

Write the following equations in slope – intercept form if necessary, then identify the slope and the y – intercept:

- **Ex:** y = 3x + 4 **Ex:** y = -3x + 2
- m = 3, b = 4 m = -3, b = 2

Ex: 
$$y = 5x - 3$$
  
 $m = 5, b = -3$   
Ex:  $y = -\frac{1}{3}x + 3$   
 $m = -\frac{1}{3}, b = 3$ 

Ex: 
$$y = -\frac{1}{4}x + 1.5$$
  
Ex:  $-x + y = 4$   
 $\frac{+x}{y} = 4 + x$   
 $m = -\frac{1}{4}, b = 1.5$   
 $m = 1, b = 4$ 

## Graph an equation of a line using slope – intercept form:

- Make sure the equation is written in \_\_\_\_\_\_slope-intercept form\_\_\_\_\_\_.
   Identify \_\_\_\_\_slope \_\_\_\_\_ and \_\_\_\_\_y-intercept \_\_\_\_\_\_\_
   make sure the slope is written as a \_\_\_\_\_fraction \_\_\_\_\_\_ so you can identify \_\_\_\_\_\_so you can identify \_\_\_\_\_\_so you can identify \_\_\_\_\_\_\_so you can identify \_\_\_\_\_\_\_\_so you can identify \_\_\_\_\_\_\_so you can ident
- 4. Moving <u>from</u> the *y* intercept go where the <u>\_\_\_\_\_</u>rise\_\_\_\_\_ and <u>\_\_\_\_</u>tells you to go.
- 5. Plot multiple points and connect.

## Graph using slope - intercept form:

**Ex:** y = -2x + 3









**Ex:** 
$$y = -\frac{2}{5}x + 1$$



**Ex:** 
$$y = -\frac{2}{3}x + 4$$



**Ex:** -x + y = 3



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

