

## **4.5: Graph Using Slope-Intercept Form**

- Goals:**
- \*Rewrite equations into slope-intercept form
  - \*Identify slope and y-intercept of a line from an equation
  - \*Identify slope and y-intercept of a line from a graph
  - \*Graph a line using slope-intercept form
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**\*\*RECALL\*\***  $Ax + By = C$  is \_\_\_\_\_ form of a line. It is simply one way to write the equation of a line.

### **Slope – Intercept Form:**



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

**Ex:**  $y = 3x + 4$

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

**Ex:**  $y = 5x - 3$

**Ex:**  $3x - 3y = 12$

**Ex:**  $x + 4y = 6$

**Ex:**  $x + 3y = 9$

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

1.

2.

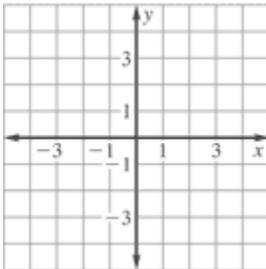
3.

4.

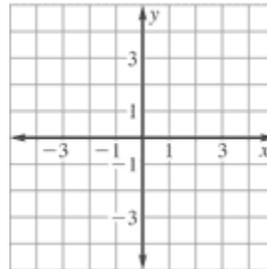
5.

**Graph using slope – intercept form:**

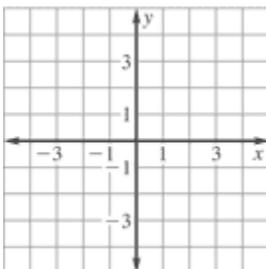
**Ex:**  $2x + y = 3$



**Ex:**  $y = -2x + 5$



**Ex:**  $x + 2y = 4$



**Ex:** A violin teacher charges a one-time sheet-music fee of \$20 for adults and no fee for children. The charge per hour for both is \$20.

- a) Write two equations to represent each situation.
  
- b) How will these two graphs be related?

**Parallel Lines:**

**Ex:** Line *A* passes through the points  $(-1, -1)$  and  $(2, 0)$   
Line *B* passes through the points  $(0, -3)$  and  $(5, -1)$   
Line *C* passes through the points  $(-2, -5)$  and  $(4, -3)$

Which two lines, if any, are parallel?

**Decide if the given lines are parallel. State why or why not.**

**Ex:**  $y = 3x + 7$   
 $2y - 6x = 8$

**Ex:**  $y = \frac{1}{2}x + 4$   
 $2x - 4y = 16$