Name:_____   Date:_____

Notes
Algebra Section 4.5
Pages 244-250

Goal: "You will graph linear equations using slope-intercept form"

Slope-Intercept Form:

$$y =$$

m is the _____. It is the _____ of *x*

b is the _____. It is always being _____

or _____.

Identify slope and y-intercept.

1) $y = 3x + 4$

Slope:

y-intercept:

2) $y = 3x + 2$

Slope:

y-intercept:

3) $y = 5x - 3$

Slope:

y-intercept:

4) $y = \frac{1}{3}x - 4$

Slope:

y-intercept:

5) $y = -6x + 2$

Slope:

y-intercept:

6) $x + 3 = y$

Slope:

y-intercept:

7) $\frac{2}{5}x = y$

Slope:

y-intercept:

8) $y = x - 8$

Slope:

y-intercept:

9) $4 - x = y$

Slope:

y-intercept:

10) $4 - \frac{5}{8}x = y$

Slope:

y-intercept:

To Graph a Line in Slope-Intercept Form:

1) Identify _____ and _____. Be sure slope is written as a _____ so you can identify

the _____ and _____. Notice if the _____ is positive or negative.

2) Plot the _____. Always rise.

3) Run to the _____ if the slope is _____. Run to the _____ if the

slope is _____.

4) Plot _____ points and connect with a _____.

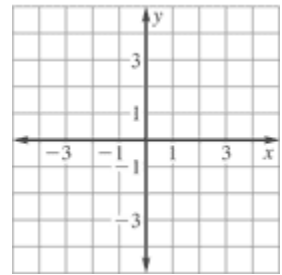<u>**Graph using slope – intercept form**</u>:
Example:

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

Step 1: Identify the *m* and *b*.

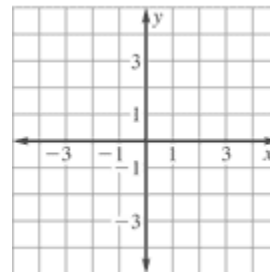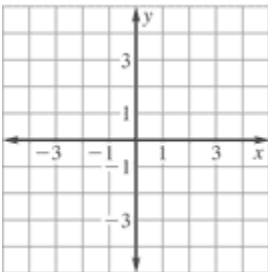Step 3: Plot the *y*-intercept and rise.

Step 4: Run right if + and left if -.
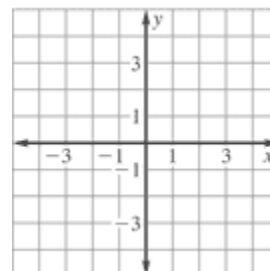
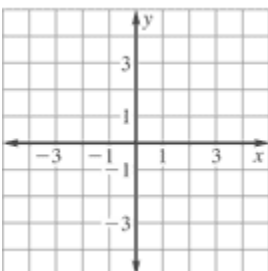Step 5: Plot several points and connect.

Try These:

1) $y = 2x - 4$

2) $y = -\frac{2}{5}x + 1$

3) $2x - 4 = y$

4) $2 - \frac{1}{3}x = y$

Special Slopes:

Parallel Lines: They have the same _____. If two lines are _____ they are

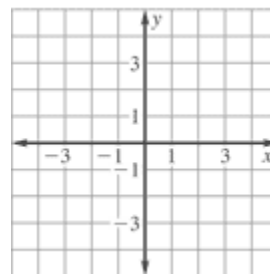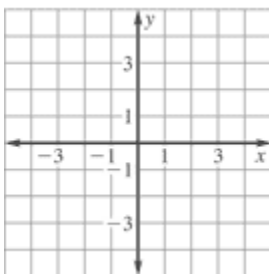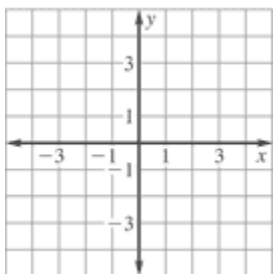_____ or _____ at the same _____, and therefore will never

_____, making them _____ _____.

To determine if two lines are parallel: Find the slope of each line.

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)

Find the slope of each line by graphing.

Which two lines, if any, are parallel?

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

1) $y = 3x + 7$

   $y = \frac{1}{3}x + 7$

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

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