From Last Day:

SUMMARY: Slope and the y-Intercept. In a linear equation $y = mx + b$,

_____ is the **slope of the line** (or the rate of change) and

_____ is the **y-intercept** (or initial value) of the line.

A line with a **positive** slope:

_____

A line with a **negative** slope:

_____

Ignoring the sign, the bigger the slope, the more _____ the line.

Example: Rearrange the following equations from least steep to most steep.

a) $y = -2x$ b) $y = 7x$ c) $y = x$ d) $y = -8x$

1. Identify the slope (m) and y-intercept (b) of each of the following linear relations.

     a) $y = x - 1$ $m =$ _____ $b =$ _____

     b) $y = \frac{3}{4}x + \frac{1}{2}$ $m =$ _____ $b =$ _____

     c) $y = -4x$ $m =$ _____ $b =$ _____

2. Given the slope and y-intercept, write equations for each of the following linear relations.

     a) slope: 3   y-intercept: 6   equation : _____

     b) slope: -0.15   y-intercept: -2.3   equation : _____

     c) slope: $-\frac{1}{4}$ y-intercept: $\frac{1}{8}$ equation : _____

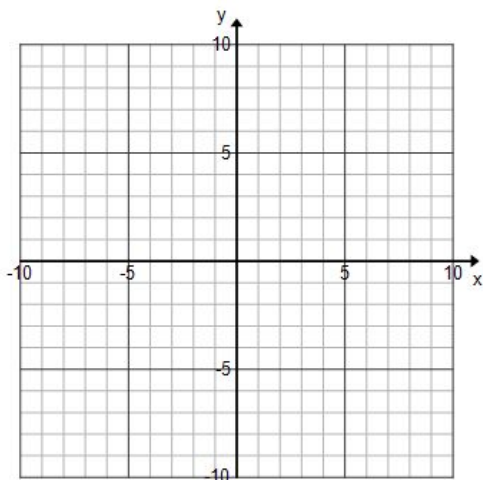Example 1: For each of the following lines a) state the slope and y-intercept

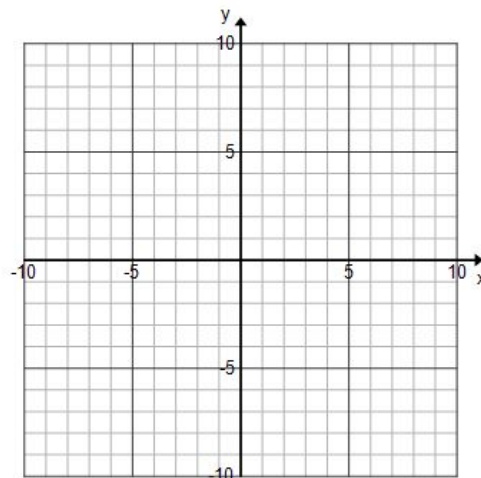   b) Graph using

a table of values

    1. $y = 2x - 3$

2. $y = 4 - x$

3. $y = 2$

A line with a positive slope goes _____ .

A line with a negative slope goes _____ .

A horizontal line has a slope of _____ .

It`s equation looks like: _____ .

A vertical line has a slope of _____ .

It`s equation looks like: _____ .

Example 2: Write the equation of a line that is parallel to:

a) $y = 6x - 1$

b) $y = 3 - 0.75x$

Parallel lines have the same _____ .

Example 3: Determine whether the following lines are parallel. Show your work.

x	y
0	10
1	7
2	4
3	1
4	-2

x	y
0	4
1	1
2	-2
3	-5
4	-8

Skill Practice/Homework: QUIZ NEXT CLASS!
Pg. 115: #1-3 (determine m and b), 4, 7, 8(a,b) (if not done from last class!)
Pg. 124: #1, 2(odds), 3, 4(odds), 6(abcd), 7, 8(ac)