Math 102 In Class Activity
Section 2.4 Slope of a line

A. Complete the following chart:

1. Find the y-intercept of each equation given
2. Find any other ordered pair that satisfies the given equation
3. Calculate the slope of the line using the points in columns 1 and 2 for each equation.

Equation **y-intercept** **ordered pair sol.** **Slope** $m = \frac{y_2 - y_1}{x_2 - x_1}$

	1	2	3
y = x + 3			
y = 2x + 3			
y = -2x + 3			
y = 0.5x + 3			

B. Examine the results in the table above:

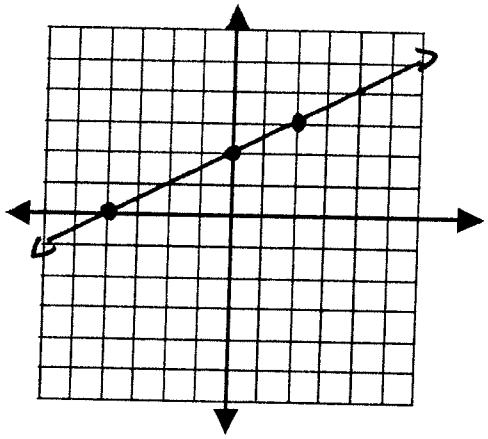
1. Describe the relationship you discovered in column 1.

2. Describe the relationship you discovered in column 3.

3. Slope intercept form: $y = mx + b$.
   How can you apply this to finding the slope and y-intercept of any other linear equations in slope intercept form?

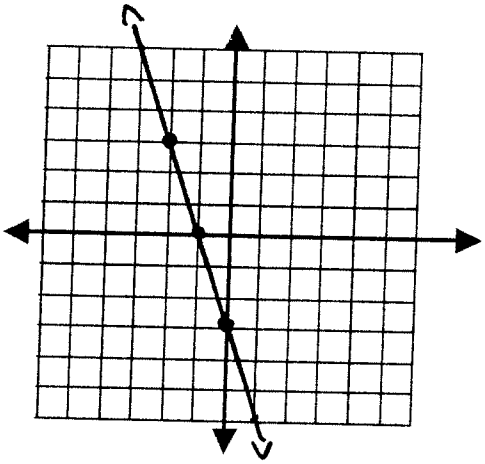
Worksheet for 2.5

1.



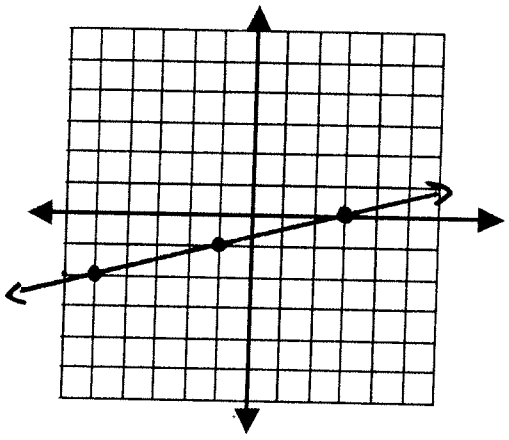
Write the equation of the above line in slope-intercept form.

2.



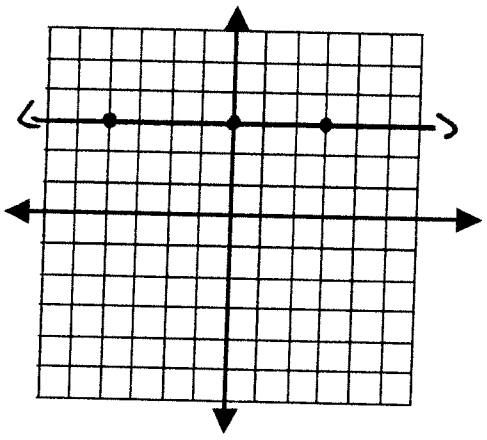
Write the equation of the above line in standard form.

3.



Write the equation of the above line in slope-intercept form.

4.



Write the equation of the above line using function notation.

5. Given two points (1, 4) and (-2, 7) write an equation of a line in:

a. point slope form

b. slope – intercept form

c. standard form.

Write the equations of the lines below in slope intercept form.

6. Find a line parallel to $2x - 4y = 12$ and through (-2, 6).

7. Find a line perpendicular to $2x+y=3$ and through (-2, 5).

Write the equations of the liens below in standard form.

8. Find a line parallel to $y = 3x + 4$ through (-1, 4).

9. Find a line perpendicular through $y = 5x - 2$ and through (5, 3)

10. A person starts at the foot of a mountain and walks straight up. They reach an elevation of 1500 ft, and they figure they have walked 10,000 ft horizontally.

a. What is the slope of the mountain?

b. Write in slope intercept form the equation of the line.