Mth 096 – Beginning Algebra – Practice Exam 3

NOTE: This exam should not be taken as a complete list of possible problems. It is merely intended to be an example of the difficulty level of the regular exam. To best utilize it as a *practice* exam, try to complete the exam without notes or distractions. Try to emulate the classroom environment as much as possible.

- 1. On the Cartesian Coordinate system, label each of the following:
 - a. x axis.
 - b. y axis.
 - c. the points (2,4) & (-3,1).
 - d. quadrants I, II, III, IV.
 - e. the origin.
- 2. Use the given equation to fill in the missing values in the table.



3. Find the *x*- and *y*-intercepts of the equation y + 3x = -6.

Sketch the graph of the following equations. Be sure to clearly label your graphs.

4. x + y = -2



7. Find the slope of the line between the points (2,-2) and (1,4).



8. Determine the slope of the line from its graph.

9. Sketch the graph of a line passing through the point (2,1) with slope $\frac{2}{3}$.



For each of the following, write an equation for the line satisfying the given conditions.

10. Passing through the point (3,-3) with slope 2.

11. Passing through the points (1,5) and (3,11).

12. Passing through the point (3,5) with no slope.

13. What is the slope of the line y = -3x + 4?

14. Are the lines x + 2y = 4 and y = x + 3 parallel? Why or why not?

15. Write an equation of the line whose graph is given.



16. Suppose we assume height and ideal weight are linearly related. The ideal weight of a woman 62 in. tall is approximately 125 lbs., and the ideal weight of a woman 66 in. tall is approximately 137 lbs. Let x = height and y = ideal weight and write an equation in slope-intercept form relating a woman's height to her ideal weight.

Note: The numbers used in this example are approximations. "Ideal weight" is different for every body type and age group. For more information, see the University of Michigan's Health System at http://www.med.umich.edu/Ilibr/primry/life15.htm.