One hour Practice Exam, MAT172, Fall 2005

Exam I on Wed 9/28 will cover A.1-A.6, 1.1-1.7, This covers only A.1-1.3

The answers and homework are on the Webpage.

1. a) Plot the line of slope 4 through (1,8).
   b) What is its y intercept?
   c) Write the point slope formula for this line.
   d) Solve the formula for $y$ and check the slope and y intercept.

2. a) Solve $-3x + 6 \geq 0$.
    b) Then graph $y = -3x + 6$.
    c) What is the slope?
    d) Where is $y \geq 0$?

3. a) What is $(-\infty, 5] \cap (0, \infty)$?
   b) If $x \leq 5$ and $x > 0$, draw the location of values for $x$ on the real line.
   c) If $|x| > 4$, draw the location of values for $x$ on the real line.
   d) If $|x - 3| > 1$, draw the location of values for $x$ on the real line.

4. Factor $x^2 - 6x + 8$ and then solve $x^2 - 6x + 8 \leq 0$. Write your answer on the number line and in set theory notation.

5. Complete the square for $x^2 - 6x + 8 > 0$ and solve $x^2 - 6x + 8 > 0$. Write your answer on the number line and in set theory notation.

6. a) Plot the graph of $(x - 3)^2 + (y - 2)^2 = 4$.
    b) Where does it hit the x axis?
    c) Solve for $y$.
    d) Is this a function for $y$ in terms of $x$?
    e) Let $y = f(x) = -\sqrt{4 - (x - 3)^2} + 2$. Verify this solves the formula in (a).
    f) What is the domain of this function?
    e) Plot this function.
    f) Use the graph to determine the range of the function.