Name: Worksheet 1, Math 1113

1. Mark the points $P_1(1, -4)$ and $P_2(-5, 2)$ on a coordinate plane. Determine the distance between the two points.

2. Graph the following equation by plotting the points. Determine the x- and y-intercepts and then mark the points on your graph.

$$x = |y - 1| + 1$$

($|x|$ means the absolute value of x)

3. Mark the point $P(1, 2)$ on a x-y plane. Determine the points on the x-axis that are distance 3 away from P and mark them on the coordinate plane.

4. Write an equation of a circle centered at $(1, 0)$ with a radius 3.

5. (a) Find a such that

$$x^2 + 6x = (x + a)^2 - c$$

for some c.

(b) Find b such that

$$y^2 - 2y = (y + b)^2 - d$$

for some d.

(c) Put the following equation of a circle in the standard form

$$x^2 + 6x + y^2 - 2y + 7 = 0$$