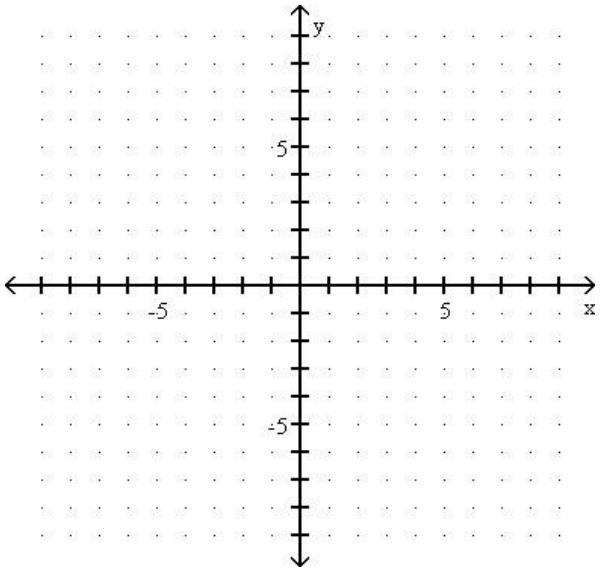
MAC1105 **Day 13 Classwork: Intercepts, Midpoints, Distance, and Circles**

Name _____ Score _____

1. Identify the x and y-intercept(s) if they exist.
   a. $y = x^2 - 2$ b. $\sqrt{x+3}$

2. Give the center and radius and graph the circle. Label at least four points on the circle.

$$x^2 + 6x + y^2 + 8y + 9 = 0$$



Center:

Radius:

3. Find the distance between the points P(-5, -1) and Q(5, 4).

4. Find the coordinates of the midpoint of the segment PQ for P(-3, -2) and Q(4, -9).

5. Determine whether the graph of the equation is symmetric with respect to the x-axis, y-axis, the origin, or none of these.

   a. $y = x^2 - x + 7$

   b. $y^2 = \frac{5}{x^2}$