Circles

1 - 3. Determine the center and radius of each of the following circles:

1. $x^2 + y^2 = 36$

2. $(x-1)^2 + y^2 = 16$

3. $(x+1)^2 + (y+3)^2 = 5$

4 – 5. Determine the standard equation for a circle satisfying the given conditions:

4. Center (1, 0); Diameter = $\sqrt{8}$

5. Center $(4,-5)$; circle passes through (1, 3)

6 – 8. Determine whether the equation represents a circle, a point, or no graph. If the equation represents a circle, find he center and radius.

6. $x^2 + y^2 - 2x - 4y - 11 = 0$

7. $6x^2 + 6y^2 - 6x + 6y = 3$

8. $\left(\frac{x^2}{4}\right) + \left(\frac{y^2}{4}\right) = 1$

9. Determine the equation of the bottom half of the circle $x^2 + y^2 = 16$

10. Determine the equation of the bottom half of the circle $x^2 + y^2 - 4x + 3 = 0$

11. Find the equation of the line that is tangent to the circle $x^2 + y^2 = 25$ at the point (3, 4) on the circle.

12. Determine the equation of a circle which passes through (2, 3), (3, 2), and $(-4, 3)$.