MATH 1350 Exam II 17 October 2014

Answer the problems on separate paper. You do not need to rewrite the problem statements on your answer sheets. Work carefully. Do your own work. **Show all relevant supporting steps!**

1. (13 pts) Find an equation of the line through the points

$$A=(-3,5),\ B=(3,3)$$

2. (13 pts) Find an equation of the line parallel to $3x-4y=12$ and containing the point (-2,3).

3. (13 pts) Find an equation of the circle with center (-4,3) and with (2,5) on the circle.

4. (13 pts) Sketch and discuss the graph of $x^2+y^2-8x+6y-11=0$. Specifically, identify: center and radius.

5. (13 pts) Sketch and discuss the graph of $9x^2+4y^2=36$. Specifically, identify: center, vertices, coverticies, foci, major axis, minor axis, eccentricity, directrices.

6. (13 pts) Sketch and discuss the graph of $9x^2-y^2=9$. Specifically, identify: center, vertices, foci, transverse axis, conjugage axis, equations of asymptotes, eccentricity, directrices.

7. (13 pts) Sketch and discuss the graph of $x^2+9y^2-10x+36y+52=0$. Specifically, identify: center, vertices, coverticies, foci, major axis, minor axis, eccentricity, directrices.

8. (13 pts) Find an equation of a parabola with focus (3,-5) and directrix $y=1$.