Calculus II
Exam 4, Spring 2003

1. Find the focus and vertex (or foci and vertices) of the conic given by the equation $x^2 - 8x - 8y = 8$.

2. Find the equation of the conic which has a focus at (6,2) and ends of the minor axis at (1,7) and (1,-3).

3. Find the equation of the tangent line ot the hyperbola

$$\frac{x^2}{4} - y^2 = 1$$

at the point $(4, \sqrt{3})$.

4. Find the area of the region that lies outside the circle $r = 1$ and inside the circle $r = 2\cos\theta$.

5. Find the center, foci and vertices of the ellipse given in polar coordinates by the equation

$$r = \frac{6}{1 + \frac{1}{2}\sin\theta}\ .$$