**Quiz 7**      **Calculus 3**      **11/21/2011**

Each problem is worth 5 points.  Clear and complete justification is required for full credit.

1.  Parametrize and give bounds for the portion of the paraboloid $z = x^2 + y^2$ lying above the rectangle with vertices (0,0), (2,0), (2,3), and (0,3).

2.  Parametrize and give bounds for the portion of the cylinder with radius 3 centered around the $x$-axis between $x = 0$ and $x = 1$.

3.  Parametrize and give bounds for a sphere with radius 2, centered at the origin.