## Quiz $9 \quad$ Calculus $3 \quad$ 11/17/2009

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 $x=y^{2}+z^{2}$ between $y=0, y=2, z=$ 0 , and $z=3$.
2. Parametrize and give bounds for the portion of the cylinder with radius 3 centered around the $y$-axis between $y=0$ and $y=5$.
3. Parametrize and give bounds for a sphere with radius 5 , centered at the origin.
