

### Calculus III Quiz 3

Don't forget to write down clearly your **Name**:

and **Net Id**:

**1. Multivariable functions (5 points).** Find the domain and range of the function  $f(x, y, z) = \ln(e^2 - x^2 - y^2 - z^2)$ .

**2. Partial derivatives (5 points).** Compute the partial derivative  $f_y$  of the above function in Problem 1.