Name: _____

Math 200 Calculus I (Bueler) 12 April 2006

Quiz # 8

Total of 25 points.

1. (*5 pts*) Find the limit; justify the steps:

$$\lim_{x\to 0} \frac{e^{3t}-1}{t}$$

2. Consider the graph of $y = \frac{1}{x^2-9}$.

(a) (*2 pts*) Find the domain and identify any symmetries.

(b) (*2 pts*) Find the critical points.

(c) (*2 pts*) Identify vertical and horizontal asymptotes, if any.

(d) (*4 pts*) Sketch the graph.

3. (*10 pts*) A box with a square base and an open top must have a volume of $32\,\text{ft}^3$. Find the dimensions of the box that minimize the amount of material used.