MAC 3313 Cal3 **Quiz 3e** 14 Feb 1996 **Name:** _____

Show **ALL** work for credit; be neat; and use only **ONE** side of each page of paper.

1. Use the chain rule to find the indicated partial derivatives.
   $u = xy + yz + zx, x = st, y = e^{st}, z = t^2$; $\frac{\partial u}{\partial s}$, $\frac{\partial u}{\partial t}$ when $s = 0, t = 1$.

2. Find $h(x, y) = g(f(x, y))$ and the set on which h is continuous. (Sketch the set.)
   $g(t) = \frac{\sqrt{t}-1}{\sqrt{t}+1}$, $f(x, y) = x^2 - y$.