Math 173 - Quiz 6

Name _____

March 5, 2015

Score _____

Show all work to receive full credit. Supply explanations when necessary.

1. (3 points) Find the limit or show that it does not exist: $\lim_{(x,y)\to(0,0)} \dfrac{\sin xy}{x^2+y^2}$

2. (3 points) Find the limit or show that it does not exist: $\lim_{(x,y)\to(1,1)} \dfrac{x-y}{\sqrt{x}-\sqrt{y}}$

3. (2 points) Determine where $g(x,y,z) = \dfrac{\sqrt{x+y}-\sqrt{x-y}}{z}$ is continuous.

4. (2 points) Let $f(x,y) = 2xy^2 - 3x^2 + xy^3$. Determine $f_x(x,y)$ and $f_y(x,y)$.