

Calculus III, Math 201
Fall 2012, Term 121

Quiz 4 Section 13

Name: _____

SID: _____

Serial Number: _____

Instructions: Show Your Work!

(4^{pts}) **1.** Find and sketch the domain of the function $f(x, y) = \sqrt{x} + \sqrt{x^2 + y^2 - 9}$.

(4^{pts}) **2.** Find the limit, if it exists, or show that the limit does not exist

$$\lim_{(x,y) \rightarrow (0,0)} \frac{xy^3}{x^2 + y^6}.$$

(4^{pts}) **3.** If $f(x, y) = \arctan(y/x)$ find $f_x(-1, 3)$.