KFUPM/ Department of Mathematics & Statistics MATH 201/ Quiz 2/ 101-13/

ID #Name

1. [4pts] Find the limit if it exists, or show it does not exist: $\lim_{(x,y)\to(0,0)} \frac{y^4}{x^4+5y^4}$

- 2. [6pts] Let $z = \ln(e^{4x} + e^y)$ (i) Compute (and simplify): $z_x + 4z_y$ (ii) Use (i) and Clairaut's Theorem to compute and simplify: $z_{xx}z_{yy} (z_{xy})^2$.