

King Fahd University of Petroleum & Minerals
Department of Mathematics & Statistics
MATH 201-16 Quiz # 2:

Name:.....ID#.....

1) Sketch the surface $x = z^2 + 3y^2$ and name it.

2) Let

$$f(x, y) = \frac{x^2 + 2 \sin^2 y}{x^2 + y^2}$$

a) Find the $\lim_{(x,y) \rightarrow (0,0)} f(x, y)$ if it exists, or show that the limit does not exist.

b) Find $\frac{\partial f}{\partial x}$ and $\frac{\partial f}{\partial y}$