KFUPM/ Department of Mathematics & Statistics MATH 201/ Quiz 3/ 101-09b/

ID # Name

1. [5pts] Find the local extrema and saddle points (if they exist) of

 $f(x,y) = 3x^2 - 2xy + y^2 - 8y$ 

2. [5pts] Use Lagrange multipliers to find the maximum and minimum of f(x, y) = xy on the ellipse  $2x^2 + y^2 = 1$ .