

KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS  
DEPARTMENT OF MATHEMATICAL SCIENCES  
MATH 201-11  
Quiz # 5  
January 9, 2008

NAME:

ID#:

**SHOW ALL YOUR WORK**

1. **(10 points)** Use Lagrange multipliers to find the maximum and minimum of the function  $f(x, y) = x^2y$  subject to the constraint  $x^2 + y^2 = 1$ .