

KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS
DEPARTMENT OF MATHEMATICAL SCIENCES
MATH 201-11
Quiz # 4
November 24, 2007

NAME:

ID#:

SHOW ALL YOUR WORK

1. **(3points)** Find and sketch the domain of the function $f(x, y) = \frac{\sqrt{x - y^2}}{1 - x^2}$.

2. **(4points)** Find $\lim_{(x,y) \rightarrow (0,0)} \frac{6xy^3}{2x^4 + y^4}$ or show that it does not exist.

3. **(3points)** Find the first partial derivatives of the function $u = te^{w/t}$.