Math 118 Fall 2002 ADVANCED PLACEMENT CALCULUS

Quiz **4**

DUE: MON. OCT. 7

Name: _____

Date: _____ **Friday October 4**
Time Begun: _____ Ron Buckmire
Time Ended: _____

Topic covered: Functions of Two Variables

The point of this quiz is for you to demonstrate your facility with functions of more than one variable. Specifically, you should know how to differentiate and visualize them as well as obtain their extreme values.

Reality Check:

EXPECTED SCORE : _____**/10** ACTUAL SCORE : _____**/10**

Instructions:

1. Once you open the quiz, you have 30 minutes to complete it.
2. You **may not** use the book or any of your class notes, but you may use a calculator. You must work alone.
3. If you use your own paper, please staple it to the quiz before coming to class. If you don't have a stapler, buy one.
4. After completing the quiz, sign the pledge below stating on your honor that you have adhered to these rules.
5. Relax and enjoy....
6. **This quiz is due on Monday, October 7**, at the beginning of class. NO LATE QUIZZES WILL BE ACCEPTED.

Pledge: I, _____, pledge my honor as a human being and Occidental student, that I have followed all the rules above to the letter and in spirit.

Math 118 Fall 2002 Quiz **Four**

SHOW ALL YOUR WORK

Let $f(x,y) = (x^2+y^2)((x-1)^2-y^2)+3$.

1. [*4 points.*] Find the partial derivatives $f_x(x,y)$ and $f_y(x,y)$. Do *not* simplify!

2. [*3 points.*] Evaluate the following:

   $f(1,1) =$

   $f_x(1,1) =$

   $f_y(1,1) =$

3. [*3 points.*] Find the equation for the plane tangent to the surface graph of f at the point $(x_0,y_0,z_0) = (1,1,f(1,1))$.