Math 102 – Section 2

Name: _____

Quiz 4

Signature: _____

Consider the function $f(x,y) = x^2y^3 - x + y^2$ and the point $P_0(1,-2)$.

1. Compute $\nabla f(P_0)$.

2. Find an equation of the tangent plane to the graph of $z = f(x,y)$ at the point with $(x,y) = (1,-2)$.

3. Find parametric equations of the normal line to the graph of $z = f(x,y)$ at the point with $(x,y) = (1,-2)$.

4. Find an equation of the tangent line to the level curve $f(x,y) = f(1,-2)$ at the point P_0.

5. Find parametric equations of the normal line to the level curve $f(x,y) = f(1,-2)$ at the point P_0.