

Quiz 4a Calculus 3 9/29/2006

Each problem is worth 5 points. Clear and complete justification is required for full credit.

1. Find the gradient of the function $f(x, y) = \ln(x^2 + y^4)$ at the point (2,1).
2. Find the directional derivative of the function $g(x, y) = x^2y - y^3$ in the direction of the vector $\langle 3, -4 \rangle$ at the point (1,2).