
Math 2400 Section 003 – Calculus III – Spring 2012

Quiz for February 13

1. **Directional Derivative:** If the function f is differentiable at the point (a, b, c) , then the rate of change of $f(x, y, z)$ at the point (a, b, c) in the direction of the unit vector $\vec{u} = u_1\vec{i} + u_2\vec{j} + u_3\vec{k}$ is:

2. **Gradient:** Given the setup above,

$$\text{grad}f(a, b, c) =$$