Math 321 Quiz 4

April 24/26

Your Name: *Your Section:*

Instructions: You have 20 minutes to solve the following problems within groups.

1. f is a scalar function of x, y, z and $\vec{v}$ is a vector field. Show one of the following (5):
   a). $\nabla \times (f\vec{v}) = \nabla f \times \vec{v} + f\nabla \times \vec{v}$
   b). $\nabla \times (\nabla f) = 0$

2. Use Green's formula to calculate $\int_C (-y^3 dx + x^2 y^2 dy)$ where C is the boundary of the square $0 \leq x \leq 1, 0 \leq y \leq 1$ (5)

3. 3 thank-you marks for the attendance.