

Math 301 Quiz #1 Summer 2014

Name:..... ID:.....

**Exercise # 1:** Find the directional derivative of

$$f(x, y) = 2e^{-xy} \cos(2y)$$

at  $(8, \frac{\pi}{8})$  in the direction of the vector  $u = i - 3j$ .

**Exercise #2:** Find the divergence of the vector field

$$F(x, y, z) = x^2yi - yzj + e^z xk$$