King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics
Math 333 – Term 181 – Quiz 1

Name:

Student ID #:

Section #:

Question 1. Let $r = x\mathbf{i} + y\mathbf{j} + z\mathbf{k}$. $a = a_1\mathbf{i} + a_2\mathbf{j} + a_3\mathbf{k}$ is a constant vector. Show that $curl[(r \cdot r)a] = 2(r \times a)$

QUESTIONS 2 IS ON THE BACK OF THE PAGE.

Question 2. Evaluate
$$\int_C xy^2 \, dy$$
where C is the quarter circle defined by $x = 4\cos t$, $y = 4\sin t$, $0 \le t \le \pi/2$.