

MATH 275 – Section 001 – Quiz 11

You may work with other class members on this quiz, but you may *not* receive assistance from people not in MATH 275 (Section 001). You must show all of your work to receive full credit. Do all your work on other sheets of paper and be sure to staple all the pieces of paper together or **YOU WILL GET A ‘ZERO’ ON THE QUIZ**. Do not use decimal approximations unless asked to do so. Your work on this quiz must be handed in by Monday, 25 November 2002 at 9:40 a.m. **GOOD LUCK!**

- 1) Let C be the portion of the curve $y = x^2$ between $(0, 0)$ and $(2, 4)$. Compute

$$\int_C \frac{y}{x} ds.$$

- 2) Compute, using two different methods, the work done by the force field

$$\mathbf{F} = \begin{bmatrix} y + 1 \\ x + 2 \end{bmatrix}$$

on a particle that travels clockwise along the lower half of the unit circle $x^2 + y^2 = 1$.

- 3) Compute

$$\int_C [(x^2 - y) dx + (x + y^2) dy],$$

where C is the triangle whose vertices are $(0, 0)$, $(1, 0)$, and $(1, 2)$, traversed counterclockwise.