MATH 116-02 QUIZ 11

Surname\ Name:

ID:

Problem 1. Find the work done by force $\mathbf{F} = (3x^2 - 3x)\vec{i} + 3z\vec{j} + \vec{k}$ over the curve $C: \quad \vec{r}(t) = t\vec{i} + t^2\vec{j} + t^4\vec{k}$, $0 \leq t \leq 1$.

Problem 2. Find the flow of the velocity field $\mathbf{F} = (x + y)\vec{i} - (x^2 + y^2)\vec{j}$ along the upper half of the circle $x^2 + y^2 = 1$ from $(1, 0)$ to $(-1, 0)$.