Name:
September 15, 2016
MAC 2313.9728
Cyr

Quiz 3
You must show all work to receive full credit!!

Problem 1. (4 points) Given $\mathbf{r}(t) = \langle \tan^{-1}(t), 2e^{2t}, 8te^{t} \rangle$, calculate $\mathbf{T}(0)$, where $\mathbf{T}$ is the unit tangent vector.

Problem 2. (6 points) Find the length of the curve $\mathbf{r}(t) = \langle t^2, 9t, 4t^{3/2} \rangle$ over the interval $1 \leq t \leq 4$.