Calculus II

Name:______ Student ID:______

Quiz 6 Apr. 20, 2006

Given that

$$\mathbf{r}(t) = < t^2 - 1, e^{2t}, \sin 3t >,$$

calculate

• (2 pts)

 $\lim_{t\to 0} \mathbf{r}(t) = ?$

• (4 pts)

$$\frac{d}{dt}\mathbf{r}(t) = ?$$

• (4 pts)

$$\int \mathbf{r}(t) \, dt = ?$$

Write your solutions as complete as possible. Working time: 15 minutes.