

Quiz 10—————**Math 1272**

1 Find the position, velocity and acceleration of a particle at time $t = 4$ of a particle whose position is given by:

$$\vec{r}(t) = \left\langle \frac{1}{\sqrt{t}}, e^{t^2}, \cos(3t) \right\rangle.$$

2 Find the vector function for velocity ($\vec{v}(t)$) and position ($\vec{r}(t)$) given the following acceleration function and initial conditions:

$$\vec{a}(t) = (-3, 0, e^t)$$

$$\vec{v}(0) = (1, -1, 2)$$

$$\vec{r}(0) = (0, 0, 1).$$