

Last Name: _____

First Name: _____

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Quiz 6

Question 1. (5 marks) Given $\mathbf{r}(t) = \langle t^2, \frac{2}{3}t^3, t \rangle$, find the vectors \mathbf{T} , \mathbf{N} , and \mathbf{B} at the point on the curve $(1, \frac{2}{3}, 1)$.

Question 2. (5 marks) Find the velocity and position vectors of a particle that has the acceleration vector $\mathbf{a}(t) = 2\mathbf{i} + 6t^2\mathbf{j} + 12t^2\mathbf{k}$ and the given initial velocity $\mathbf{v}(0) = \mathbf{i}$ and initial position $\mathbf{r}(0) = \mathbf{j} - \mathbf{k}$.