

**Math 151****Quiz 9**

Justify all answers with neat and organized work. Clearly indicate your answers.  
10 points possible.

1. (5 pts.) A particle is moving with the given data. Find the position function for the particle.

$$v(t) = \sin t + \cos t, \quad s(0) = 2$$

2. (5 pts.) Find the value of the sum. Once you have eliminated the “ $\Sigma$ ” (or the “ $+\cdots+$ ”), you do not have to simplify any more.

$$\sum_{i=1}^n (2i + 3)(4i + 5)$$

$$\sum_{i=1}^n i = \frac{n(n+1)}{2}, \quad \sum_{i=1}^n i^2 = \frac{n(n+1)(2n+1)}{6}, \quad \sum_{i=1}^n i^3 = \left[ \frac{n(n+1)}{2} \right]^2$$