**ME 192 Quiz #3 Answers**

On Homework #8

11-12-14

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Score \_\_\_\_\_\_\_10 points\_\_\_\_\_\_\_\_\_

1. What steps taken to derive Eq. (2) from Eq. (1) below?

(5 points)

 (1)

  (2)

*By rotating (1) by , setting {i}={B}, Ω=ω, Q=iPCi, and iViOrg=0*

*(Or by setting {A}={B}={i}, Ω=ω, iQ=iPCi, and iViOrg=0.)*

1. Evaluate iNi in the below when  and 

(5 points)



1. Using the equations below, evaluate the link velocities and accelerations for the first link of a tube-link R-R robot in Fig. 1. Assume that all masses are assignable to the ends of the links as a point mass (*i.e., zero weight distribution*)

(0 points. *The Answer in Textbook Page 178.*)

Note that   



m1



m2

L2





L1





 ;