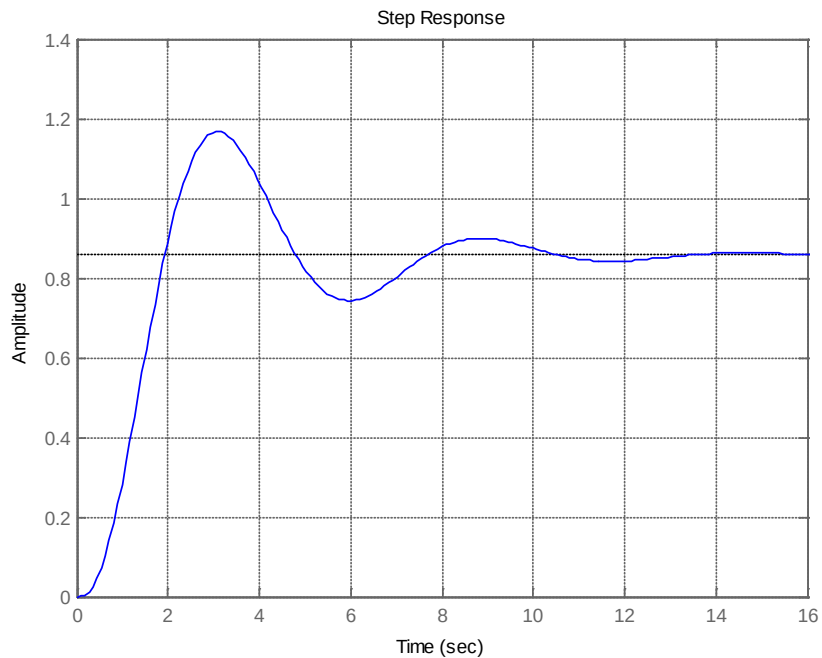


EE 475 Fall 2010 Quiz #8

Name: _____

1. A system's step response is given below. Determine: M_p =_____, t_s =_____, t_p =_____, and t_r =_____.



2. For an under-damped prototype 2nd order system with damping ratio ζ and undamped natural frequency ω_n , answer the following question.
- For 5% M_p , what damping ratio do we need:_____.
 - For 10% M_p , what damping ratio do we need:_____.
 - Overshoot formula in terms of damping ratio is: M_p =_____.
 - For $\pm 1\%$ settling the approximate settling time is: _____.
 - A crude formula for rise time is t_r = _____.
 - For $\zeta = 0.5$, estimate the overshoot:_____.