ECE 460 Q3 - 01/31/01

NAME:

Honor Code

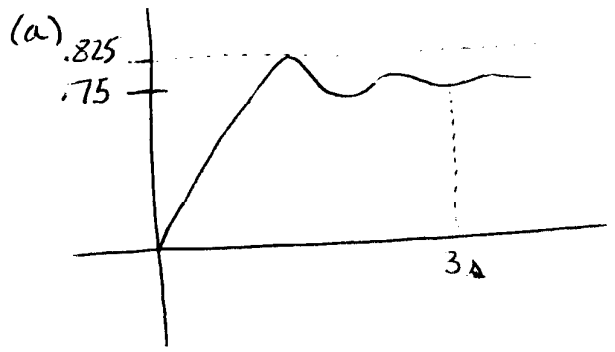
KEY

A second-order system has 10% overshoot and 3Δ Settling Time. It has final value 0.75.

3-(a) Draw the step response

7-(b) Write the Transfer Function

(a)



(b) $OS = 10\% \Rightarrow \zeta = 0.5901$

$T_s = 3 \Rightarrow 4/3\zeta\omega_n = 3$

$\zeta = 2.2595$

$$G(\Delta) = 0.75\left(\frac{5.105}{\Delta^2 + 2.67\Delta + 5.105}\right)$$