

EE 475 Fall 2010 Quiz #9

Name: _____

1. Is the system type defined based on the open loop or closed-loop transfer function? _____
2. For the prototype second order system, what is the corresponding open-loop transfer function? _____
3. What is the system type of the prototype second order system? _____
4. What is the velocity error constant of the prototype second order system? _____
5. For a unity feedback control system with open loop transfer function $G_o(s)$,
 - a. the position error constant K_p = _____,
 - b. the velocity error constant K_v = _____,
 - c. the acceleration error constant K_a = _____
6. In terms of these error constants,
 - a. the steady state error due to a step input is $e_{ss2step}$ = _____,
 - b. the steady state error due to a ramp input is $e_{ss2ramp}$ = _____,
 - c. the steady state error due to an acc input is e_{ss2acc} = _____.