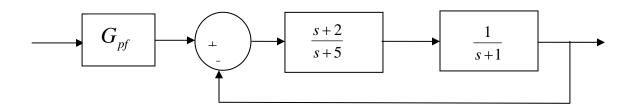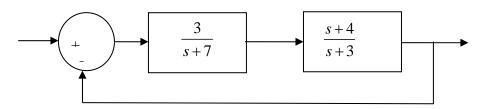## ECE-320, Quiz #5

Problems 1-3 refer to the following system:
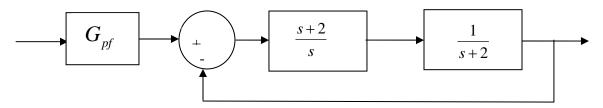

1) Assuming the prefilter G_{pf} is 1, the **position error constant** K_p is best approximated as

a) 2/3   b) 2/5   c) 1   d) 0

2) Assuming the prefilter G_{pf} is 1, the **steady state error** for a unit step is best approximated as

a) 1/3   b) 5/7   c) 3/5   d) 2/5

3) The value of the prefilter G_{pf} that produces **a steady state error** of zero is:

a) 1   b) 7/2   c) 5/2   d) 7/5

4) For the following system

The dynamic prefilter which cancels the closed loop zeros and produces a zero steady state error for a unit step input is

a) $\dfrac{\frac{11}{8}}{s+4}$ b) $\dfrac{\frac{11}{2}}{s+4}$ c) $\dfrac{11}{s+4}$ d) $\dfrac{\frac{3}{2}}{s+4}$

Problems 5-7refer to the following system

5) Assuming the prefilter G_{pf} is 1, the **velocity error constant** K_v is best approximated as

a) 2/3   b) 2/5   c) 1   d) 0

6) Assuming the prefilter G_{pf} is 1, the **steady state error** for a unit ramp input is best approximated as

a) 1/2   b) 1   c) 2   d) 1/2

7) Assuming the prefilter G_{pf} is 1, the **steady state error** for a unit step input is best approximated as

a) ∞   b) 0   c) 1   d) 2/5