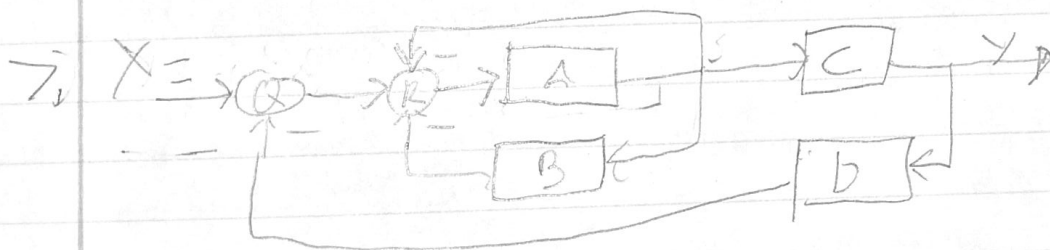


5. DC Gain is 134  
 2% settle is .8 seconds  
 $b \approx \frac{4}{.5} = .5$

$$G(s) = \left( \frac{a}{s+s} \right)_{s=0} = 1 \Rightarrow G(s) \approx \left( \frac{s}{s+s} \right)$$

6. DC Gain: 150  
 2% settling: 2.8 seconds  
 oscillating is period of .8 seconds, so 7.85 rad/s.

$$G(s) = \frac{150}{(s+1.8-7.85j)(s+1.8+7.85j)}$$



$$Y = RAC \quad R = XQ - RA - RBA$$

$$Q = YD + X$$

$$Y = \left( \frac{AC}{1 + ACb + AB + A} \right) X$$

8.  $Y = \left( \frac{KG + FG}{1 + KGH} \right) X$

9.  $Y = \left( \frac{ABCD}{1 + BCE + ABCDF} \right) X$