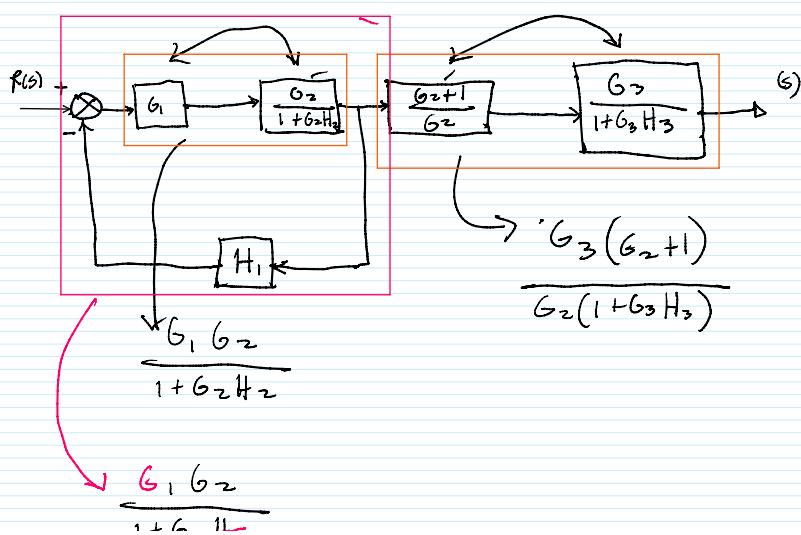
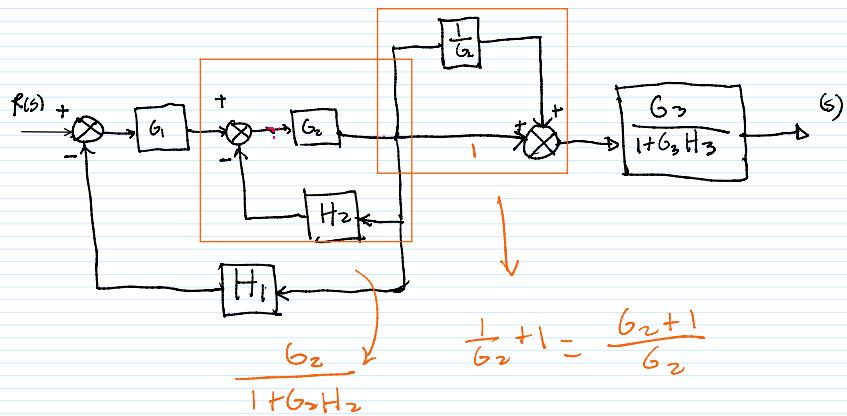
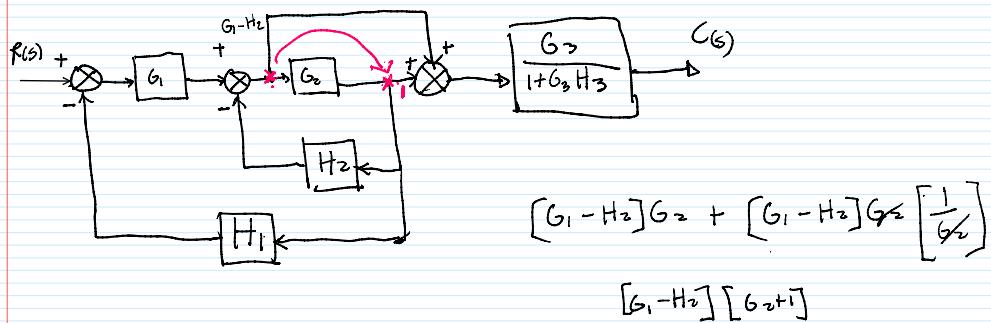
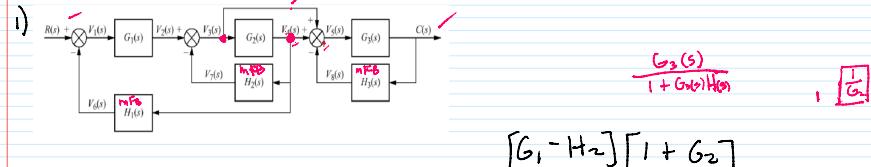
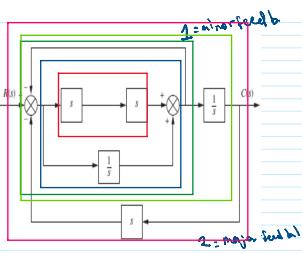
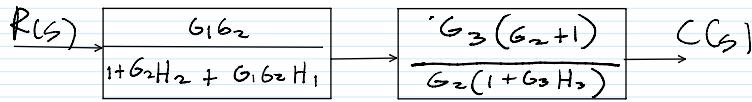


1. Combining all cascade blocks
2. Combine all parallel blocks
3. Eliminate all minor (interior) feedback loops
4. Shift summing points to left / or to right
5. Shift take off points to the right / or to left
6. Repeat Steps 1 to 5 until the canonical form is obtained  
single block diagram form  
TF of the whole system.



$$\frac{G_1 G_2}{1 + G_2 H_2}$$

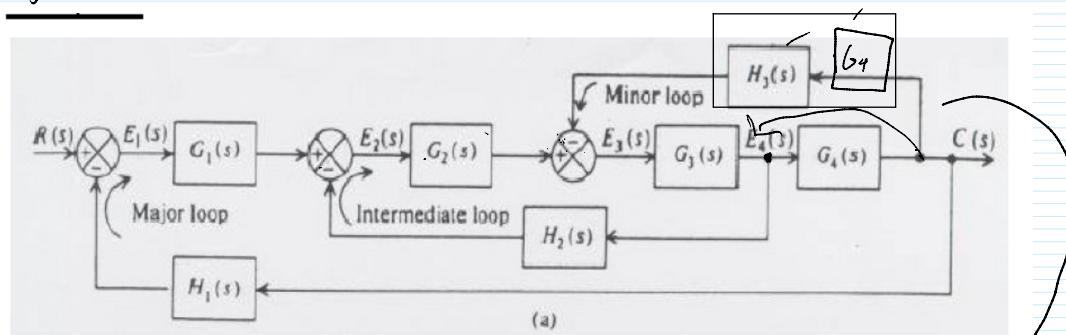
$$1 + \left( \frac{G_1 G_2}{1 + G_2 H_2} \right) H_1$$



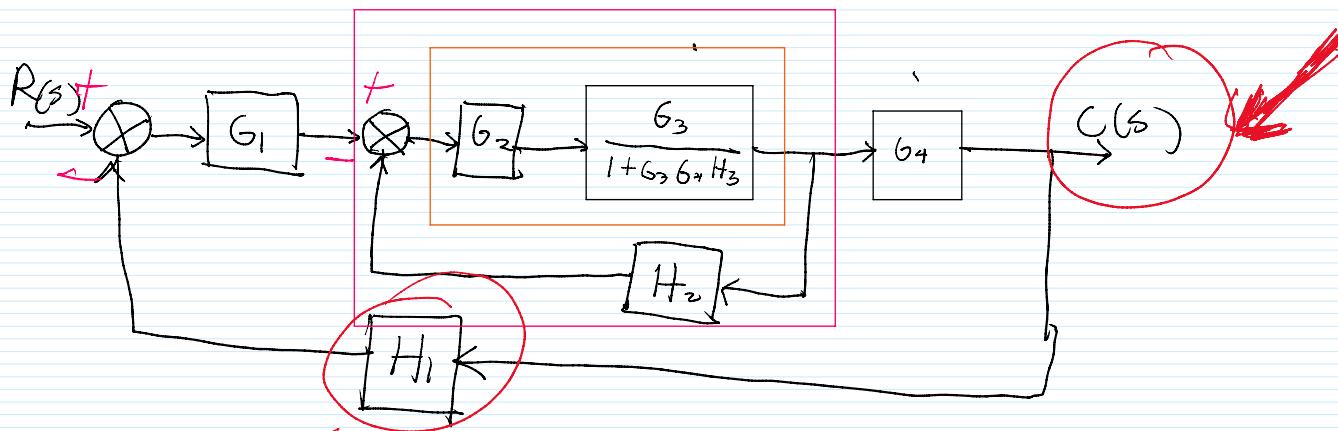
$R(s)$

$$\frac{G_1 G_2 (G_2 + 1)}{[1 + G_2 H_2 + G_1 G_2 H_1][1 + G_3 H_3]} \rightarrow C(s)$$

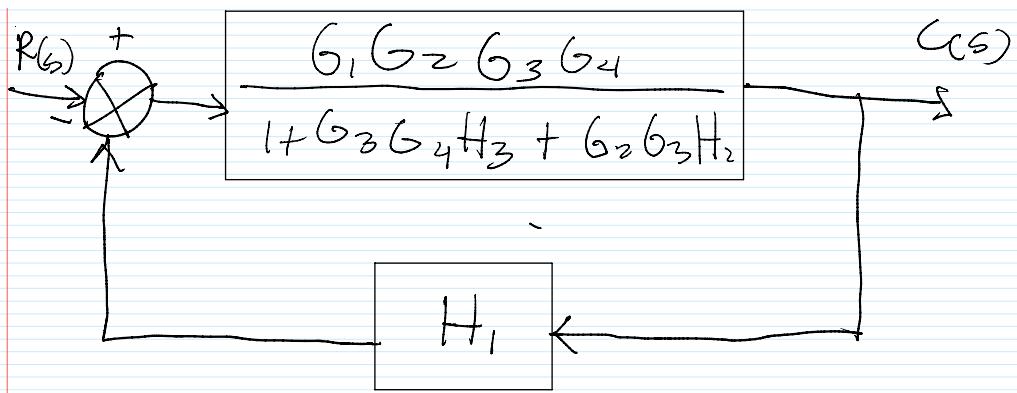
2)



$$\frac{G_3}{1 + G_3 G_4 H_3}$$



$$\frac{\frac{G_2 G_3}{1 + G_3 G_4 H_3}}{1 + \frac{G_2 G_3 H_2}{1 + G_3 G_4 H_3}} = \frac{G_2 G_3}{1 + G_3 G_4 H_3 + G_2 G_3 H_2}$$



$$1 + \frac{\frac{G_1 G_2 G_3 G_4}{1 + G_3 G_4 H_3 + G_2 G_3 H_2}}{1 + G_3 G_4 H_3 + G_2 G_3 H_2}$$

