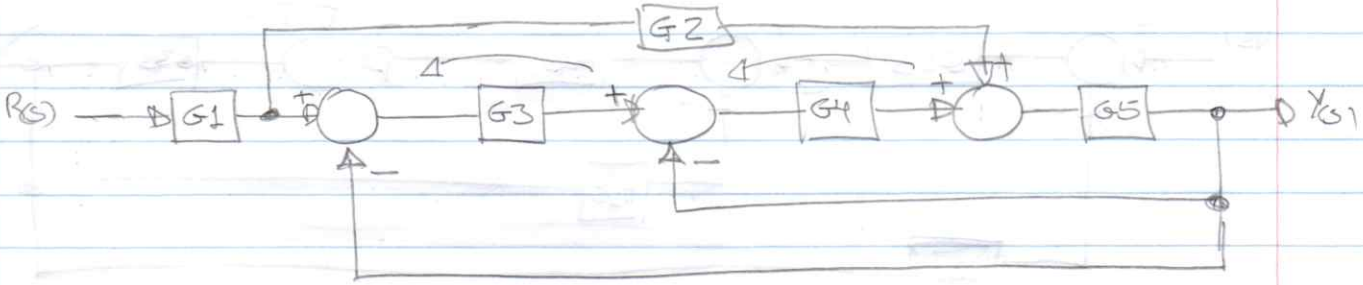
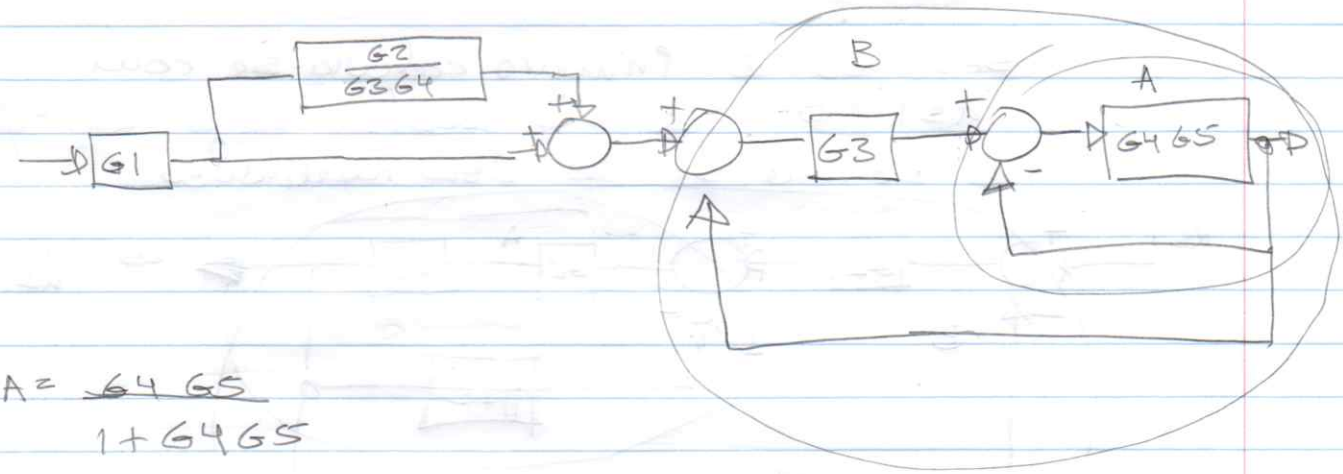
25)

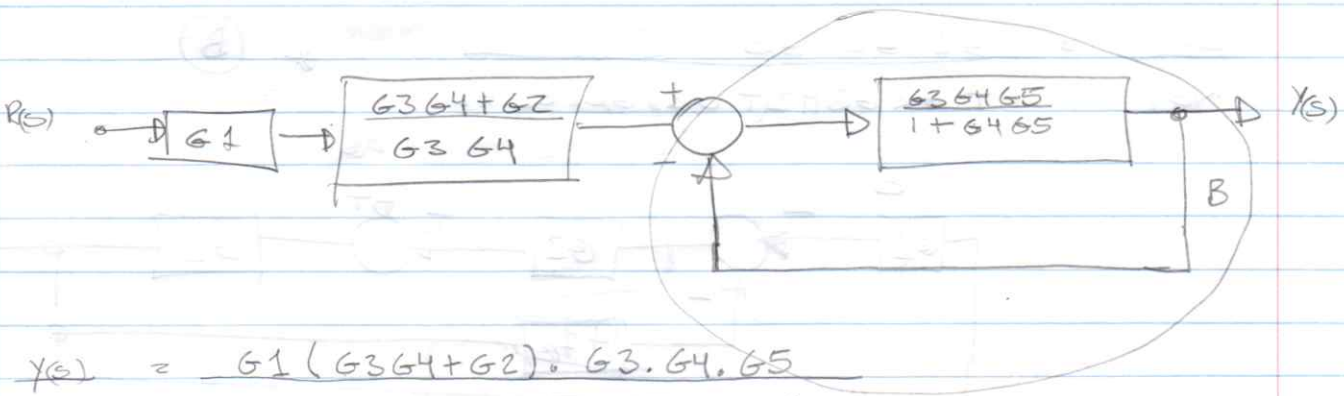




$$A = \frac{G4\,G5}{1+G4\,G5}$$

$$A' = \frac{G3\,G4\,G5}{1+G4\,G5}$$

$$B = \frac{\frac{G3\,G4\,G5}{1+G4\,G5}}{1+\frac{G3\,G4\,G5}{1+G4\,G5}} = \frac{G3\,G4\,G5}{1+G4G5+G3\,G4\,G5}$$



$$\frac{Y(s)}{R(s)} = \frac{G1\,(G3G4+G2).\,G3.\,G4.\,G5}{G3\,G4.\,(1+G4G5+G3G4G5)}$$

$$= \frac{G1\,(G3.G4+G2).\,G5}{1+G4\,G5+G3\,G4\,G5}$$