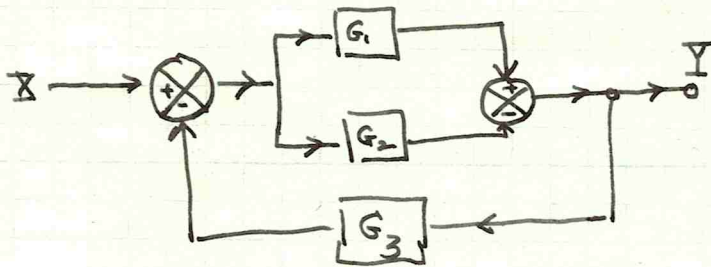


HW #3

1. Given



(a) Draw SFG

(b) Find Y/X using Mason's Gain Formula

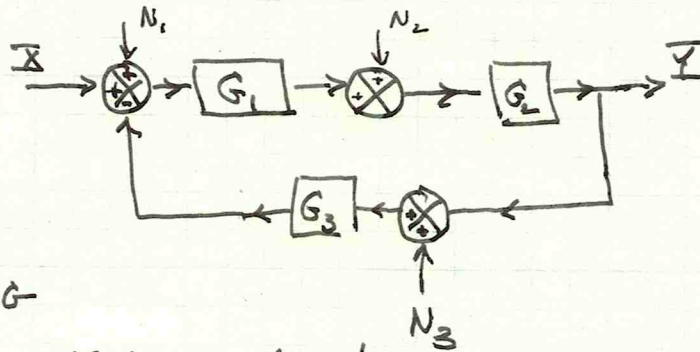
2. Consider the ode

$$y'' + 6y' + 7y = x' + 6x$$

(a) draw the signal flow graph of the system where $X(s)$ the input and $Y(s)$ is the output using only integrators

(b) Find $\frac{Y(s)}{X(s)}$ using Mason's gain formula

3. Consider



(a) Draw SFG

(b) $Y(s)$ in terms the inputs $N_1, N_2, \& N_3$