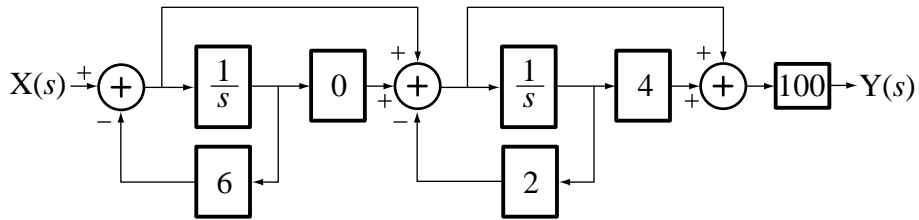


Solution to ECE Test #8 S05

A system has a transfer function, $H(s) = 100 \frac{s(s+4)}{s^2 + 8s + 12}$.

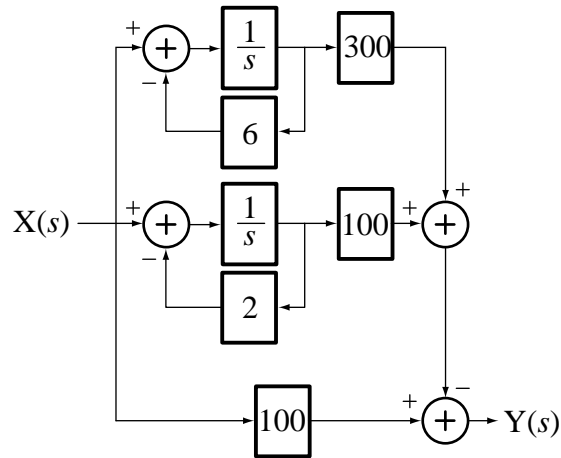
(a) Draw the complete system realization in cascade form.

$$H(s) = 100 \times \frac{s}{s+6} \times \frac{s+4}{s+2}$$



(b) Draw the complete system realization in parallel form.

$$H(s) = 100 \left[1 - \frac{4s+12}{(s+6)(s+2)} \right] = 100 - \frac{300}{s+6} - \frac{100}{s+2}$$

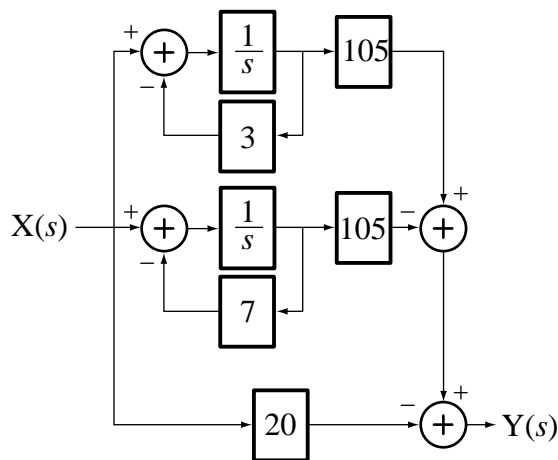


Solution to ECE Test #8 S05

A system has a transfer function, $H(s) = -20 \frac{s(s+10)}{s^2 + 10s + 21}$.

(a) Draw the complete system realization in parallel form.

$$H(s) = -20 \left[1 - \frac{21}{(s+3)(s+7)} \right] = -20 + \frac{105}{s+3} - \frac{105}{s+7}$$



(b) Draw the complete system realization in cascade form.

$$H(s) = -20 \times \frac{s}{s+3} \times \frac{s+10}{s+7}$$

