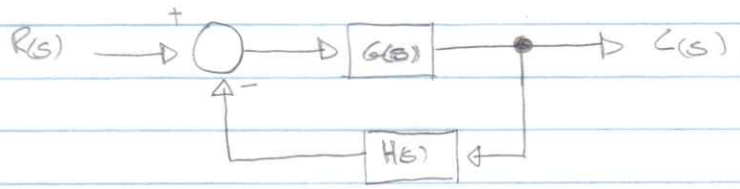
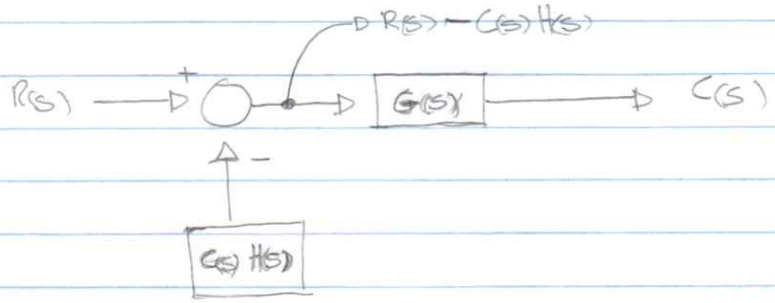
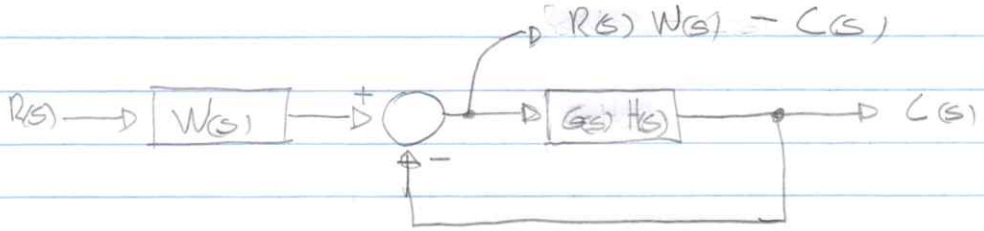
tesis

1. a)





$$C(s) = (R(s) - C(s)H(s)) \times G(s)$$
$$= R(s)G(s) - C(s)G(s)H(s) \quad \rightarrow \text{Distribuir}$$
$$C(s) + C(s)G(s)H(s) = R(s)G(s) \quad \rightarrow \text{Por en evidencia}$$
$$C(s)(1 + G(s)H(s)) = R(s)G(s) \quad \rightarrow \text{Decompov}$$
$$\frac{C(s)}{R(s)} = \frac{G(s)}{1 + G(s)H(s)}$$



$$(R(s)W(s) - C(s)) \cdot G(s)H(s) = C(s)$$
$$R(s)W(s)G(s)H(s) - C(s)G(s)H(s) = C(s)$$
$$R(s)W(s)G(s)H(s) = C(s) + C(s)G(s)H(s)$$
$$R(s)W(s)G(s)H(s) = C(s)(1 + G(s)H(s))$$
$$\frac{C(s)}{R(s)} = \frac{W(s)G(s)H(s)}{(1 + G(s)H(s))}$$

$$\frac{W(s)\,\cancel{G(s)}\,H(s)}{\cancel{(1 + G(s)H(s))}} = \frac{\cancel{G(s)}}{\cancel{(1 + G(s)H(s))}}$$
$$W(s) = \frac{1}{H(s)}$$