Diagramas de Bloques

Daniel Felipe Parra Soriano
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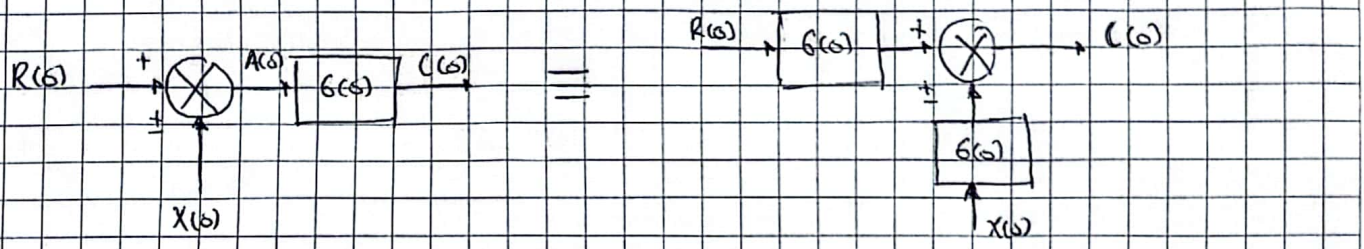
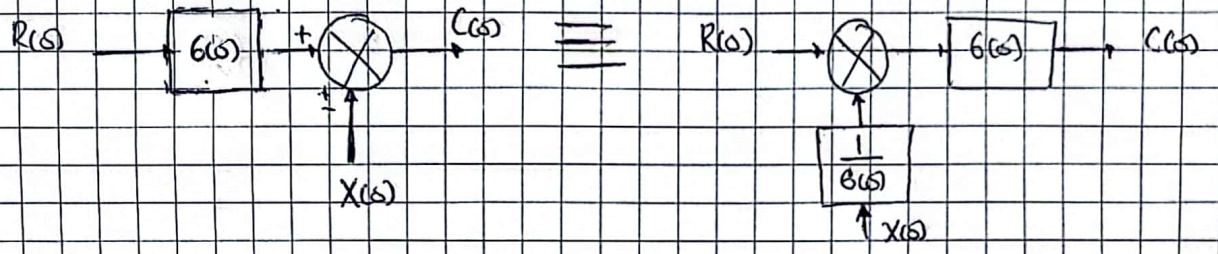
Considere los siguientes sistemas, demuestre algebraicamente las equivalencias

a)



$C(s) = G(s) \cdot A(s) \rightarrow C(s) = G(s) \cdot (R(s) \pm X(s)) \rightarrow C(s) = G(s) \cdot R(s) \pm G(s) \cdot X(s)$

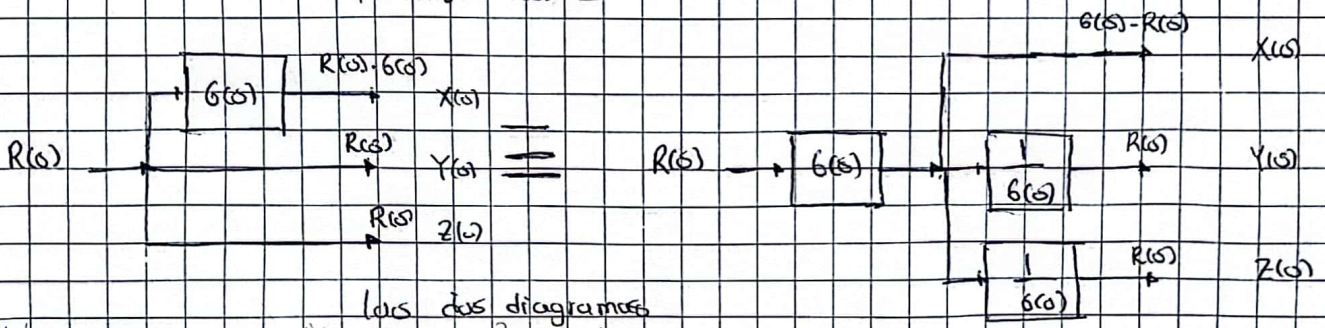
b)



$C(s) = G(s) \cdot R(s) + X(s) \rightarrow C(s) = G(s) \cdot \left(R(s) + \frac{1}{G(s)} \cdot X(s) \right)$

Factoriza $G(s)$

c)



Los dos diagramas son equivalentes

$X(s) = R(s) \cdot G(s)$

$Y(s) = R(s)$

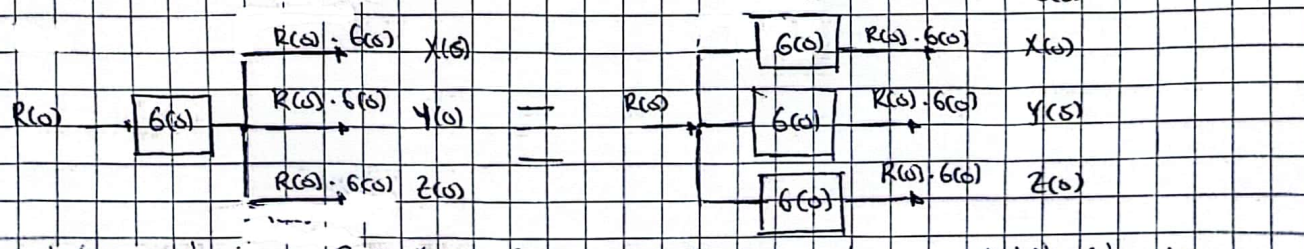
$Z(s) = R(s)$

$X(s) = R(s) \cdot G(s)$

$Y(s) = R(s) \cdot G(s) \cdot \frac{1}{G(s)} = R(s)$

$Z(s) = R(s) \cdot G(s) \cdot \frac{1}{G(s)} = R(s)$

d)



Salida común a $R(s) \cdot G(s)$ $\longleftrightarrow$ entrada común con distribución de $G(s)$ para cada salida