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CUATRIMESTRE:
Septiembre - Diciembre

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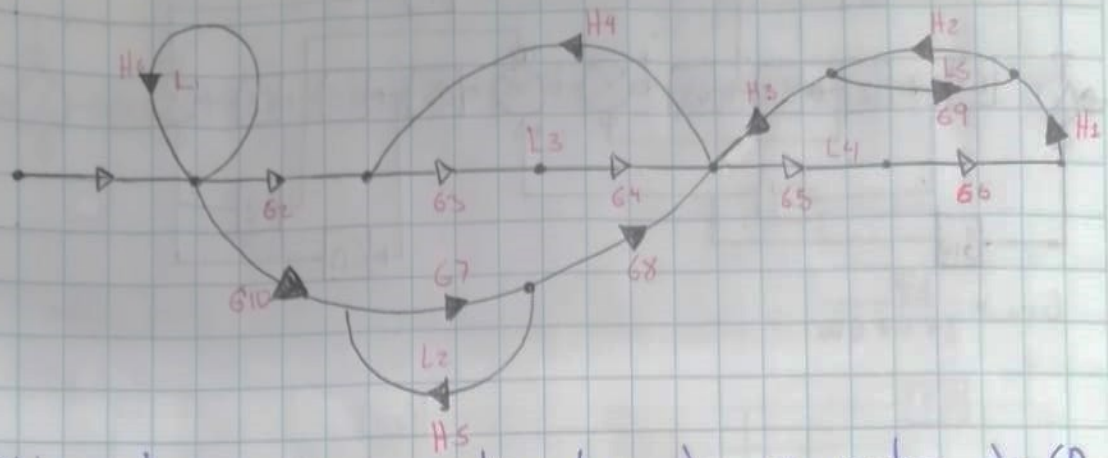
Morán Garabito Carlos Enrique



Obtener la ecuación caracteristica de un motor de CD (Todo el desarrollo en la libreta con su letra).

$M_1 = G_1\ G_2\ G_3\ G_4\ G_5\ G_6$

$M_2 = G_1\ G_{10}\ G_7\ G_8\ G_5\ G_6 = G_1\ G_5\ G_6\ G_7\ G_8\ G_{10}$

$L_1 = H_6$

$L_2 = H_5\ G_7$

$L_3 = G_3\ G_4\ H_4$

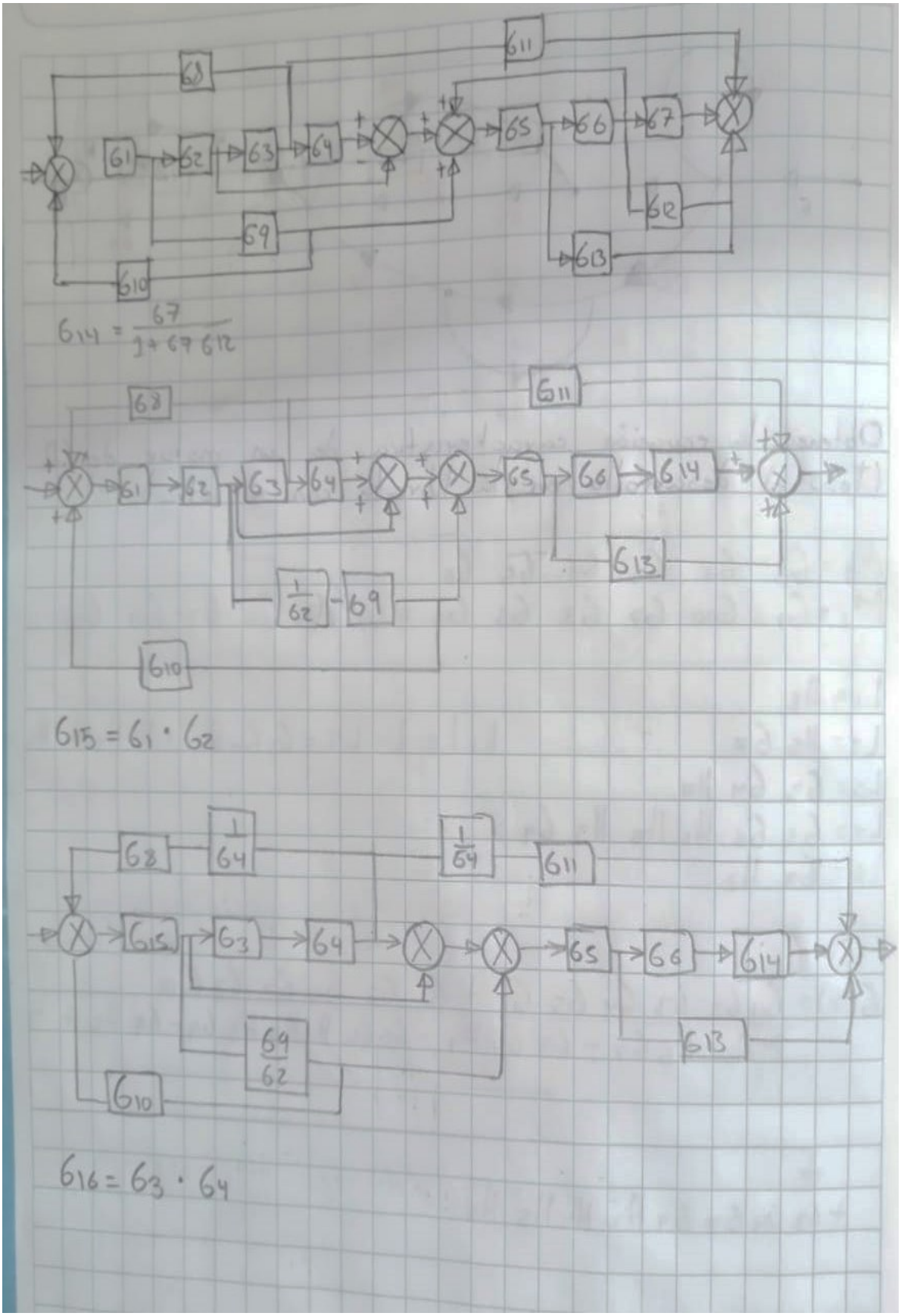
$L_4 = G_5\ G_6\ H_1\ H_2\ H_3\ G_9$

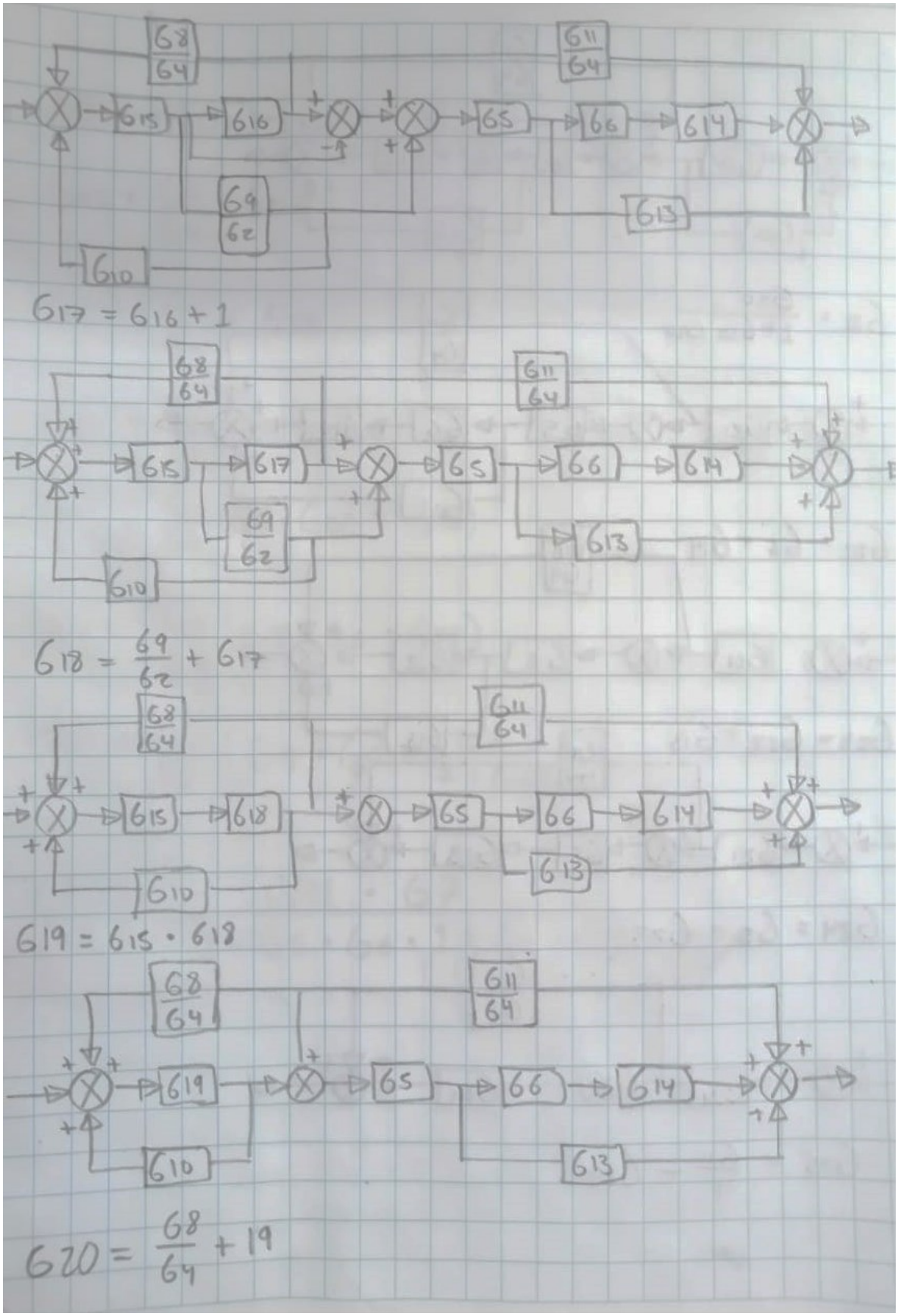
$L_5 = G_9\ H_2$

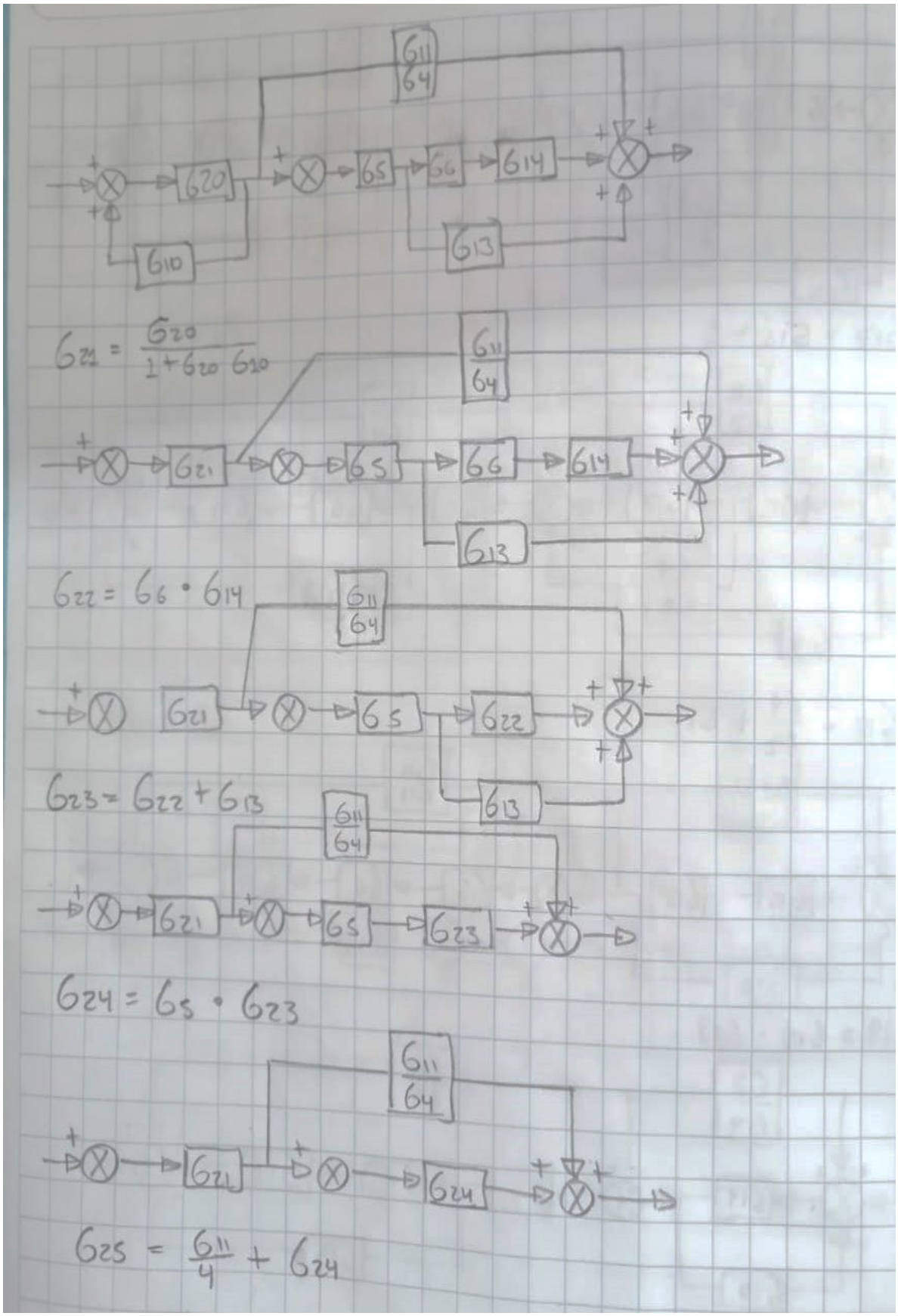
$L_1 L_2 L_3 L_5 = G_3 G_4 G_7 G_9 H_2 H_4 H_5 H_6$

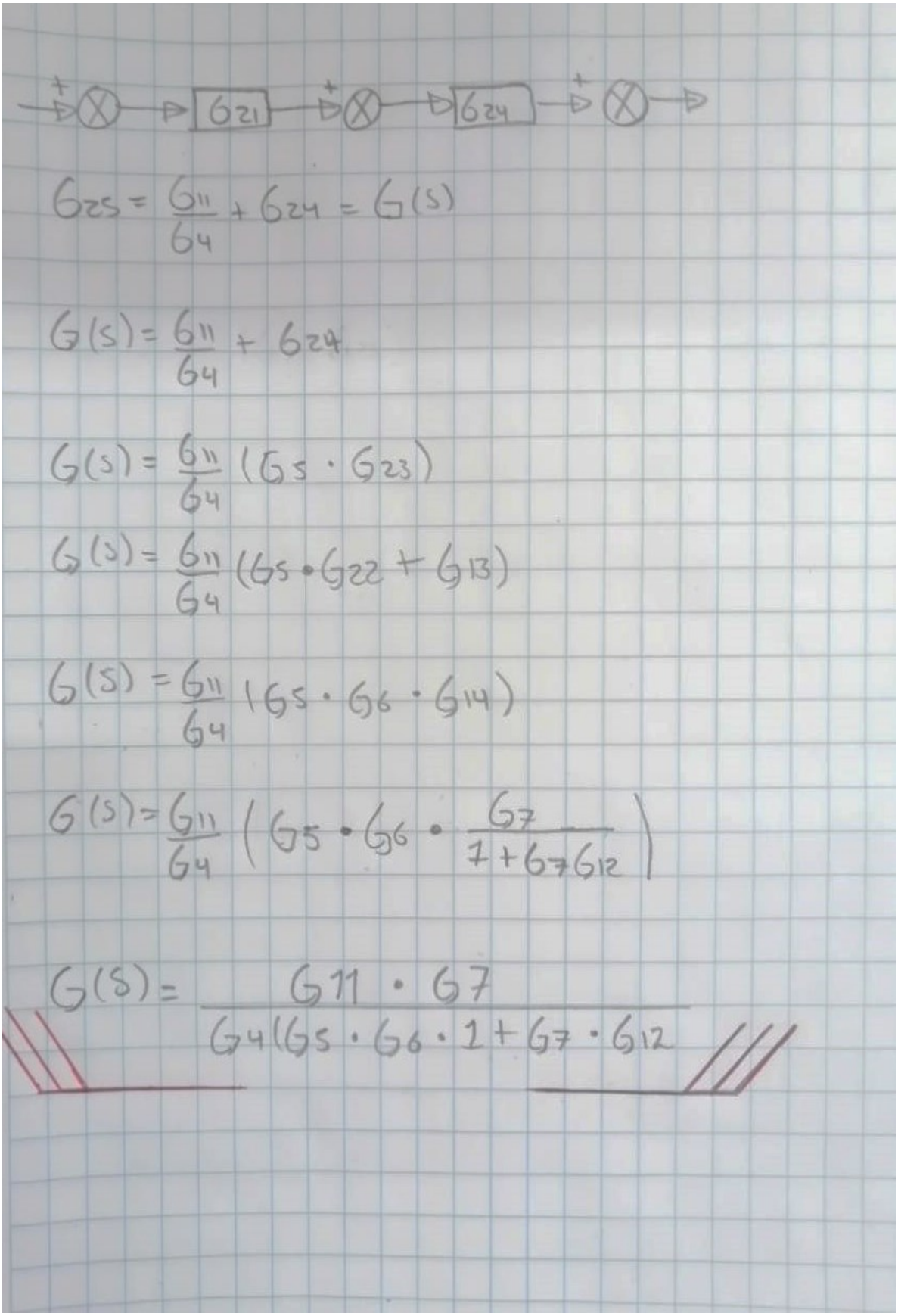
$$G(s) = \frac{G_1 G_2 G_3 G_4 G_5 G_6 + G_1 G_5 G_6 G_7 G_8 G_{10}}{1 - H_6 - H_5 G_7 - G_3 G_4 H_4 - G_5 G_6 H_1 H_2 H_3 G_9 - G_9 H_2 + -}$$

$$+ G_3 G_4 G_7 G_9 H_2 H_4 H_5 H_6$$


G8
G11
G1
G2
G3
G4
G5
G6
G7
G12
G9
G13
G10
$G_{14} = \frac{G7}{1 + G7\,G12}$
G8
G11
G1
G2
G3
G4
G5
G6
G14
G13
$\frac{1}{G2}$
G9
G10
$G_{15} = G_1 \cdot G_2$
G8
$\frac{1}{G4}$
$\frac{1}{G4}$
G11
G15
G3
G4
G5
G6
G14
G13
$\frac{G4}{G2}$
G10
$G_{16} = G_3 \cdot G_4$


G8/G4
G11/G4
G15
G16
G5
G6
G14
G9/G2
G13
G10
G17 = G16 + 1
G18 = G9/G2 + G17
G19 = G15 · G18
G20 = G8/G4 + G19


G11/G4
G20
G5
G6
G14
G13
G10
G21 = G20 / (1 + G20 G10)
G22 = G6 · G14
G23 = G22 + G13
G24 = G5 · G23
G25 = G11/4 + G24



$$G_{25} = \frac{G_{11}}{G_4} + G_{24} = G(s)$$

$$G(s) = \frac{G_{11}}{G_4} + G_{24}$$

$$G(s) = \frac{G_{11}}{G_4}(G_5 \cdot G_{23})$$

$$G(s) = \frac{G_{11}}{G_4}(G_5 \cdot G_{22} + G_{13})$$

$$G(s) = \frac{G_{11}}{G_4}(G_5 \cdot G_6 \cdot G_{14})$$

$$G(s) = \frac{G_{11}}{G_4}\left(G_5 \cdot G_6 \cdot \frac{G_7}{1 + G_7 G_{12}}\right)$$

$$G(s) = \frac{G_{11} \cdot G_7}{G_4(G_5 \cdot G_6 \cdot 1 + G_7 \cdot G_{12}}$$