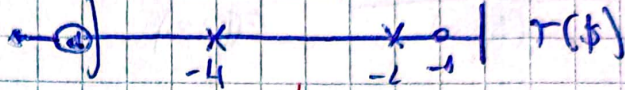


2)

$$T(s) = \frac{V_2}{V_1} \bigg|_{I_2=0} = \frac{Z_{12}}{Z_{11}} = \frac{-Y_{21}}{Y_{22}} = \frac{K(s+1)}{(s+2)(s+4)}$$

Sintetizar por parámetros

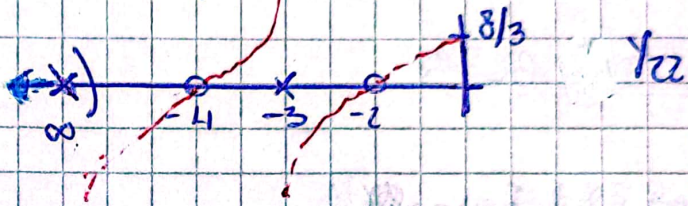
Y — Pendiente estrictamente creciente



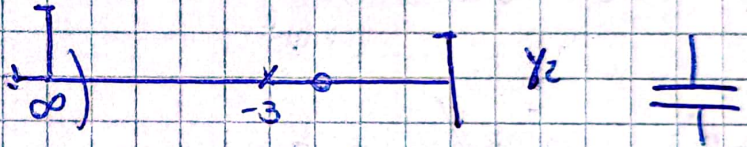
Método Gráfico

$$Y_{22} = \frac{(s+2)(s+4)}{s+3}$$

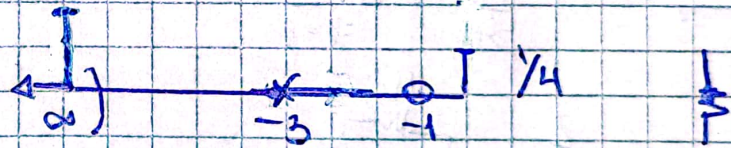
$$D = s+3$$



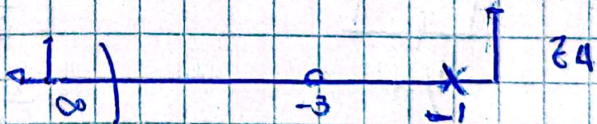
1) Remover en $\infty \rightarrow$ Fij. cero en ∞



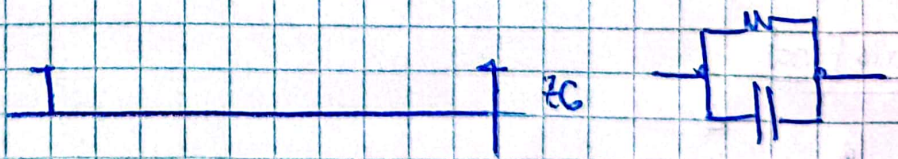
2) Remover Puntos en cero por fijar el cero en -1



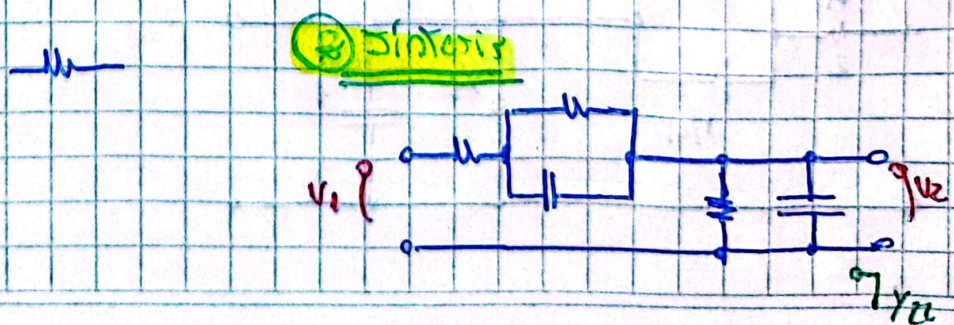
3) Invierto $\rightarrow Z$



4) Remover Tanque de



5) Remover Resistor en serie (no puede estar en paralelo porque Y_{22} es orden por $I_1=0$)



Síntesis

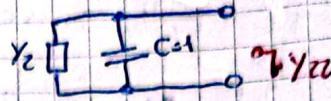
NOTA

* Método anillo

$$Y_{22} = \frac{(\phi+2)(\phi+4)}{\phi+3}$$

$$K_{\infty} = \lim_{\phi \rightarrow \infty} \frac{Y_{22}}{\phi} = 1$$

Remover polo en $\infty \rightarrow Y_2 = Y_{22} - \phi \cdot K_{\infty} \rightarrow$

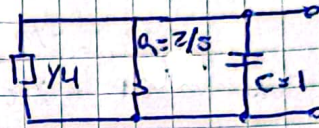


$$Y_2 = \frac{(\phi+2)(\phi+4)}{\phi+3} - \phi = \frac{\cancel{\phi^2} + 6\phi + 8 - \cancel{\phi^2} - 3\phi}{\phi+3} = \frac{3\phi+8}{\phi+3}$$

Remover polo en 0

$$Y_4 = Y_2 - K \rightarrow Y_4(-1) = 0 \rightarrow Y_2(-1) - K = 0 \rightarrow Y_2(-1) = K$$

$$K = \frac{3(-1)+8}{-1+3} = \frac{5}{2} \rightarrow A = \frac{2}{5}$$



$$Y_4 = \frac{3\phi+8}{\phi+3} - \frac{5}{2} = \frac{6\phi+16-5\phi-15}{2(\phi+3)} = \frac{\phi+1}{2(\phi+3)}$$

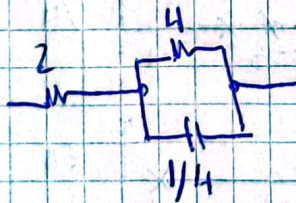
Invuelto a Z y Remover AC+R

Realizar



$$Z_4 = \frac{2(\phi+3)}{\phi+1}$$

$$Z_4 = \frac{2(\phi+3)}{\phi+1} = 2 \cdot \frac{\cancel{\phi}+3}{\cancel{\phi}+1} = 2 \cdot \frac{2}{2} = 2$$



$$Z_{AC} = \frac{A \cdot 1/\phi C}{A + \frac{1}{\phi C}} = \frac{A}{\phi C A + 1} = \frac{1/C}{\phi + 1/\phi C}$$

$$\frac{1}{\phi C} = 1$$

$$\frac{1}{C} = 4 \rightarrow C = 1/4 \rightarrow A = 4$$

2) Síntesis Final

