

2d)

tesis

37

$$s^4 + 3s^3 + 4s^2 + 12s + 12$$

$$\begin{array}{c|ccc} 4 & 1 & -4 & 12 \\ 3 & 3 & -12 & 0 \\ 2 & b_{n-1}^0 & b_{n-3}^{12} & 0 \\ 1 & \frac{-36}{\varepsilon} + 12 & c_{n-3}^{12} & \\ 0 & 12 & & \end{array}$$

instead ten  
modanca sinal

$$b_{n-1} = -\frac{1}{3} \left| \begin{array}{cc} 12 & -12 \\ 1 & 4 \end{array} \right|$$

$$b_{n-3} = -\frac{1}{3} \left| \begin{array}{cc} 0 & -36 \\ 1 & 12 \end{array} \right|$$

$$= \frac{36}{3} = 12$$

$$c_{n-1} = -\frac{1}{\varepsilon} \left| \begin{array}{cc} 36 & -12\varepsilon \\ 3 & 12 \end{array} \right|$$

$$= -\frac{1}{\varepsilon} (36 - 12\varepsilon)$$

$$= -\frac{36}{\varepsilon} + \frac{12\varepsilon}{\varepsilon}$$

$$= -\frac{36}{\varepsilon} + 12$$

$$c_{n-3} = -\frac{1}{\varepsilon} \left| \begin{array}{cc} 0 & -12\varepsilon \\ 3 & 12 \end{array} \right|$$

$$= 12$$