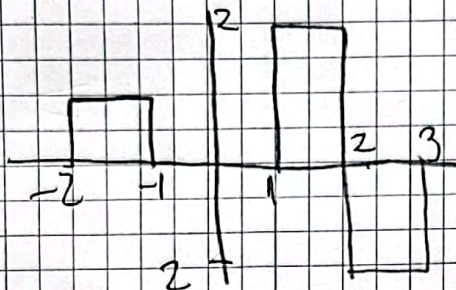


Juan Diego Caguasongu

1004232960

Punto 1)



$$R/V(t+2) - V(t+1) + 2V(t-1) - 4V(t-2) + 2V(t-3)$$

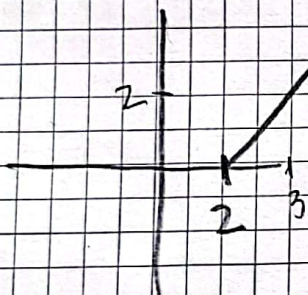
Punto 2) Gráfico

$$W(t) = Z(t) * r(2(t+k) - 6) \quad \begin{matrix} k=2(0+1) \\ k=2 \end{matrix}$$

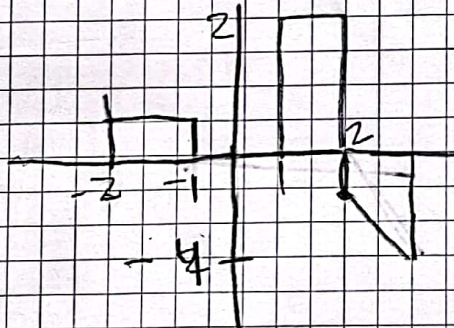
La expresión queda

$$W(t) = Z(t) * r(2(t+2) - 6)$$

$$W(t) = Z(t) * r(2t - 2)$$



$$W(t) = [V(t+2) - V(t+1) + 2V(t-1) - 4V(t-2) + 2V(t-3)] * r(2t-2)$$



Punto 3) Tensiónada a Frec

$$X(t) = 4 \cos(8\pi t + 1/4) + 2 \sin(4\pi t) + 5$$

$$T_1 = 1/4 \quad T = 1$$

$$T_2 = 1/2$$

$$X[e^{j8\pi t + 1/4} + e^{j4\pi t}] + \frac{2}{2j} [e^{j4\pi t} - e^{-j4\pi t}] + 5 = \sum_{k=-\infty}^{\infty} c_k e^{jk\pi t}$$

$$\text{Decido así } [2e^{j\pi/4}, 0, -j, 5, j, 0, 2e^{-j\pi/4}]$$

$$\text{Escribo } = 2e^{-j\pi/4} \delta(t+4) - j \delta(t+2) + 5 \delta(t) + j \delta(t-2) + 2e^{j\pi/4}$$