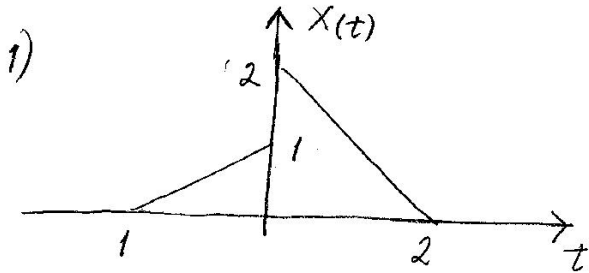
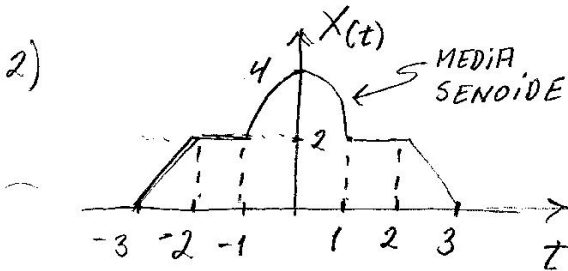


# EJERCICIOS

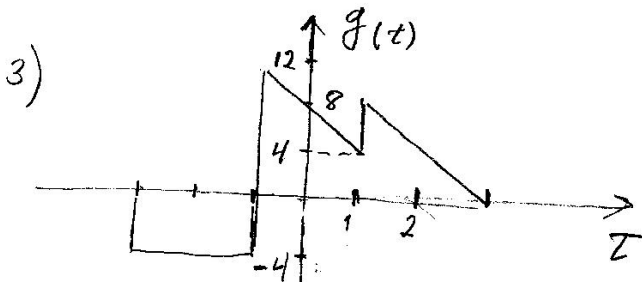
1) OBTENGA LA TRANSFORMADA DE FOURIER PARA:



$$X(j\omega) = [2 + \cos 2\omega - \cos \omega] \left(\frac{1}{\omega^2}\right) + j[\sin 2\omega - \sin \omega - \frac{1}{\omega}]$$



$$X(j\omega) = \frac{4}{\omega^2} [\cos 2\omega - \cos 3\omega] + \frac{8\pi \cos \omega}{\pi^2 - 4\omega^2}$$



$$G(j\omega) = \frac{4}{\omega^2} [e^{j\omega} - e^{-3j\omega} + j\omega (e^{-4j\omega} - e^{-j\omega})]$$

4) DETERMINE LA TRANSFORMADA DE FOURIER DE:

a)  $X(t) = \delta(t-2)$

b)  $X(t) = u(t) - u(t-1)$

c)  $X(t) = 5 \text{rect}\left(\frac{t+2}{4}\right)$

d)  $X(t) = 25 \text{Sinc}[10(t-2)]$

e)  $X(t) = 6 \text{Sen}(200\pi t)$

f)  $X(t) = 2 e^{-3t} u(3t)$

g)  $X(t) = 4 e^{-3t^2}$

5) CALCULAR LA TFTC DE:

a)  $X(t) = 3 \cos(10t) + 4 \text{Sen}(10t)$

b)  $X(t) = \text{comb}\left(\frac{t}{2}\right) - \text{comb}\left(\frac{t-1}{2}\right)$

c)  $X(t) = 4 \text{Sinc}(4t) - 2 \text{Sinc}\left(4\left(t - \frac{1}{4}\right)\right) - 2 \text{Sinc}\left[4\left(t + \frac{1}{4}\right)\right]$

d)  $X(t) = \left(2 e^{(-1+j2\pi)t} + 2 e^{(-1+j2\pi)t}\right) u(t)$

e)  $X(t) = 4 e^{-\frac{12t}{16}}$

Respuestas de la Preg. #5

$$* 5\pi e^{-j0,927} \cdot \delta(\omega-10) + 5\pi e^{j0,927} \cdot \delta(\omega+10)$$

$$* 4 \cdot \frac{j2\pi f + 1}{(j2\pi f + 1)^2 + (2\pi)^2}$$

$$* \text{rect}\left(\frac{\omega}{8\pi}\right) - \text{rect}\left(\frac{\omega}{8\pi}\right) \cos\left(\frac{\omega}{4}\right)$$

$$* \frac{128}{1 + 256\omega^2} ; * j4 e^{-\frac{j\omega}{2}} \cdot \text{comb}\left(\frac{\omega}{\pi}\right) \cdot \text{Sen}\left(\frac{\omega}{2}\right)$$