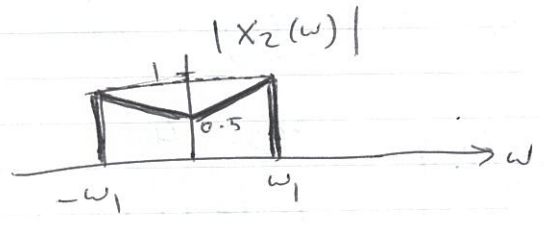
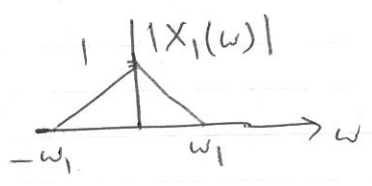
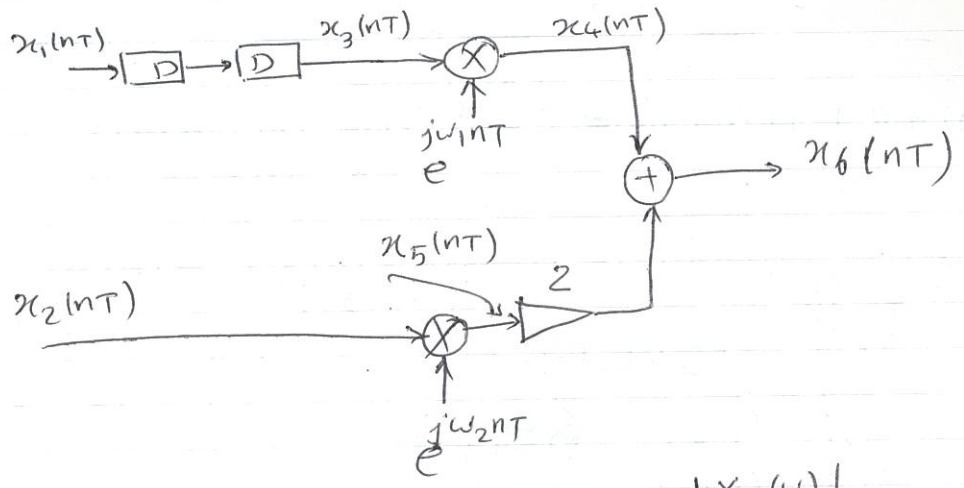


3-10



$$\omega_2 = 3\omega_1$$

time shift properties  $\Rightarrow$   $x(nT - kT) \xleftrightarrow{F} X(\omega) e^{-j\omega kT}$   
 $x(nT) e^{j\omega_1 nT} \xleftrightarrow{F} X(\omega - \omega_1)$

$$k=2 \quad X_3(\omega) = X_1(\omega) e^{-j2\omega T} \quad |X_3(\omega)| = |X_1(\omega)|$$

$$X_4(\omega) = X_3(\omega - \omega_1) = X_1(\omega - \omega_1) e^{-j2(\omega - \omega_1)T}$$

$$X_5(\omega) = X_2(\omega - \omega_2) = X_2(\omega - 3\omega_1)$$

$$X_6(\omega) = X_4(\omega) + 2X_5(\omega) = X_1(\omega - \omega_1) e^{-j2(\omega - \omega_1)T} + 2X_2(\omega - 3\omega_1)$$

