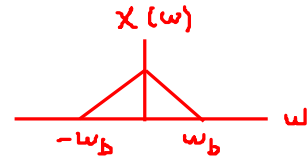


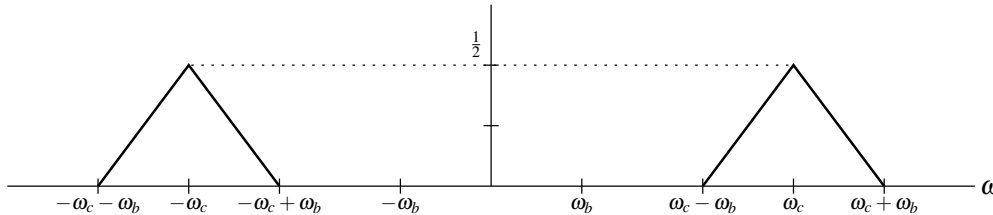
Exercise 6.23

L Answer (b).

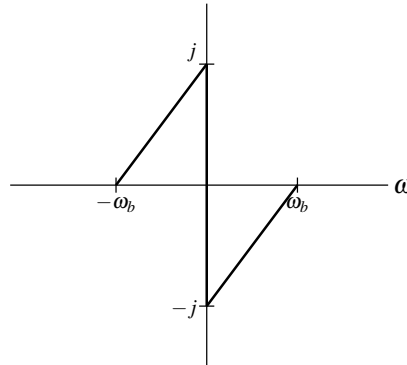
The functions V_1 , V_2 , V_3 , and Y are as shown in the figures below.



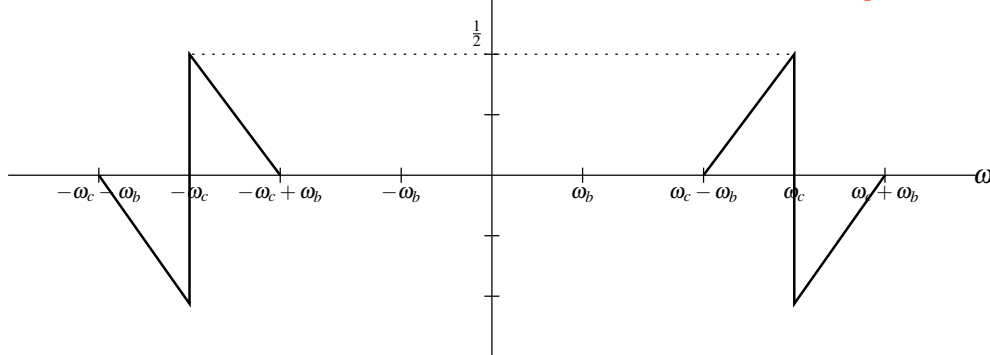
$$V_1(\omega) = \frac{1}{2} x(\omega - \omega_c) + \frac{1}{2} x(\omega + \omega_c)$$



$$V_2(\omega) = -j \operatorname{sgn}(\omega) x(\omega)$$



$$V_3(\omega) = \frac{1}{2j} V_2(\omega - \omega_c) - \frac{1}{2j} V_2(\omega + \omega_c)$$



$$Y(\omega) = V_1(\omega) + V_3(\omega)$$

