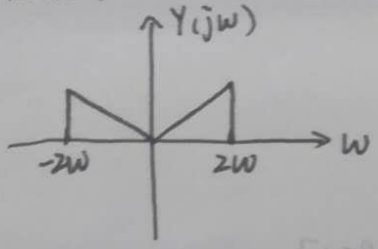
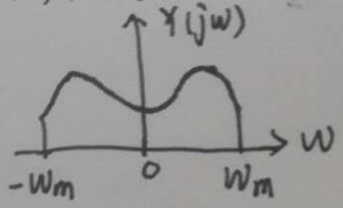
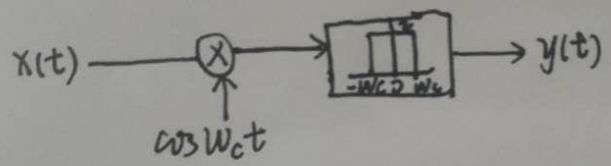
8.22. 解：如图所示。



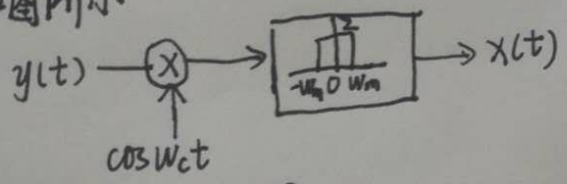
8.25. 解：(a) 如图所示。



(b) 如图所示



(c) 如图所示



8.31 解：(a) 由已知，得

$$y(t)=\sum_{n=-\infty}^{\infty}x[n]\,p(t-n)$$

$$\therefore Y(jw)=\sum_{n=-\infty}^{\infty}x[n]\,P(jw)\,e^{-jwn}$$

$$=P(jw)\sum_{n=-\infty}^{\infty}x[n]\,e^{-jwn}$$

$$=P(jw)\,X(e^{jw})$$

(b) 由已知，得

设 $c(t)=\cos(8\pi t)$ $\quad d(t)=\begin{cases}1 & 0\le t\le 1\\ 0 & \text{其他}\end{cases}$

则有 $C(jw)=\pi[\delta(w-8\pi)+\delta(w+8\pi)]$

$$D(jw)=\frac{\sin\frac{w}{2}}{\frac{w}{2}}e^{-\frac{jw}{2}}$$

$\because p(t) = c(t)d(t)$

$$\therefore P(j\omega) = \frac{1}{2\pi}[C(j\omega) \cdot D(j\omega)]$$

$$= \frac{1}{2}D[j(\omega - 8\pi)] + \frac{1}{2}D[j(\omega - 8\pi)]$$

$$= \frac{1}{2}\frac{\sin\frac{\omega}{2}}{\frac{(\omega - 8\pi)}{2}}e^{-j\frac{\omega}{2}} + \frac{1}{2}\frac{\sin\frac{\omega}{2}}{\frac{(\omega + 8\pi)}{2}}e^{-j\frac{\omega}{2}}$$

$$\therefore Y(j\omega) = X(e^{j\omega})P(j\omega)$$