$$f(t) = 2\delta(t) + 3\delta(t-4)$$

$$F(w) = \int_{-\infty}^{\infty} \{2\delta(t) + 3\delta(t-4)\} e^{-iwt}\, dt$$

$$= \underline{2 + 3e^{-i4w}}$$

$$P(w) = F(w) \times F^{*}(w) \cdot \frac{1}{2\pi}$$

$$= (2 + 3e^{-i4w})(2 + 3^{i4w}) \cdot \frac{1}{2\pi}$$

$$= \left(4 + 12\left(e^{i4w} + e^{-i4w}\right) + 9e^{0}\right) \cdot \frac{1}{2\pi}$$

$$= \frac{1}{2\pi}\left(13 + 12(\cos 4w + i\sin 4w + \cos 4w - i\sin 4w)\right)$$

$$= \underline{\frac{1}{2\pi}(13 + 24\cos 4w)}$$