

# Solution to ECE Test #9 F03

## Time Domain

$$3\delta(t-3)$$

$$3\text{sinc}(8t+7)$$

$$-\text{rect}\left(\frac{t+3}{6}\right)$$

$$12[u(t-3)-u(t+5)]$$

$$4\text{sinc}^2\left(\frac{t+1}{3}\right)$$

$$10\sin(5\pi t)$$

$$-4\text{comb}(8t)$$

$$3\text{sinc}(8(t+7))$$

$$3\delta(3t-9)$$

$$12[u(t+3)-u(t-5)]$$

$$18\text{tri}(6(t+5))$$

$$-5\text{tri}(4(t-2))$$

$$-8\text{comb}(-4t)$$

$$5\sin(10\pi t)$$

## Frequency Domain

$$3e^{-j3\omega}$$

$$0.375\text{rect}\left(\frac{f}{8}\right)e^{j\frac{7\pi f}{4}}$$

$$-6\text{sinc}(6f)e^{j6\pi f} \quad \text{not} \quad 6\text{sinc}(6f)e^{j6\pi f}$$

$$-96\text{sinc}\left(\frac{4\omega}{\pi}\right)e^{j\omega} \quad \text{not} \quad 96\text{sinc}\left(\frac{4\omega}{\pi}\right)e^{-j\omega}$$

$$12\text{tri}(3f)e^{j2\pi f} \quad \text{not} \quad 12\text{tri}(3f)e^{-j2\pi f}$$

$$j10\pi[\delta(\omega+5\pi)-\delta(\omega-5\pi)]$$

$$\text{not} \quad j10\pi[\delta(\omega+10\pi)-\delta(\omega-10\pi)]$$

$$-\frac{1}{2}\text{comb}\left(\frac{f}{8}\right)=-\frac{1}{2}\text{comb}\left(-\frac{f}{8}\right)$$

$$0.375\text{rect}\left(\frac{\omega}{16\pi}\right)e^{j7\omega}$$

$$e^{-j3\omega} \quad \text{not} \quad e^{j3\omega}$$

$$96\text{sinc}\left(\frac{4\omega}{\pi}\right)e^{-j\omega}$$

$$3\text{sinc}^2\left(\frac{\omega}{12\pi}\right)e^{j5\omega} \quad \text{not} \quad 3\text{sinc}^2\left(\frac{3\omega}{\pi}\right)e^{j5\omega}$$

$$-1.25\text{sinc}^2\left(\frac{f}{4}\right)e^{-j4\pi f}$$

$$-2\text{comb}\left(-\frac{f}{4}\right) \quad \text{not} \quad -\frac{1}{2}\text{comb}\left(-\frac{f}{8}\right)$$

$$j5\pi[\delta(\omega+10\pi)-\delta(\omega-10\pi)]$$

$$\text{not} \quad j10\pi[\delta(\omega+10\pi)-\delta(\omega-10\pi)]$$