Name_____ CM_____

Quiz 8

(no calculators allowed, you may use the transform tables)

1) If $x(t) = 2\delta(t-3)$, then $X(\omega)$ is

a) $2u(t-3)$ **b)** $2u(\omega-3)$ **c)** $2e^{j3\omega}$ **d)** $2e^{-j3\omega}$ **e)** none of these

2) If $X(\omega) = \dfrac{j\omega}{2+j\omega}$, then $x(t)$ is

a) $te^{-2t}u(t)$ **b)** $-2e^{-2t}u(t)$ **c)** $-2e^{-2t}u(t)+\delta(t)$ **d)** $-2e^{-2t}\delta(t)$ **e)** none of these

3) If $x(t) = 3e^{-2t^2}$, then $X(\omega)$ is

a) $3\sqrt{\dfrac{\pi}{2}}e^{-\omega^2/2}$ **b)** $3\sqrt{2\pi}e^{-\omega^2/8}$ **c)** $3\sqrt{\dfrac{\pi}{2}}e^{-\omega^2/4}$ **d)** none of these

4) If $X(\omega) = \mathrm{sinc}\left(\dfrac{\omega}{3}\right)$, then $x(t)$ is

a) $\dfrac{2\pi}{3}\mathrm{rect}\left(\dfrac{3t}{2\pi}\right)$ **b)** $\dfrac{3}{2\pi}\mathrm{rect}\left(\dfrac{3t}{2\pi}\right)$ **c)** $\mathrm{rect}\left(\dfrac{3t}{2\pi}\right)$ **d)** $\dfrac{3}{2\pi}\mathrm{rect}\left(\dfrac{2\pi t}{3}\right)$ **e)** none of these

5) If $x(t) = \text{sinc}^2\left(\dfrac{3t-9}{2}\right)$, then $X(\omega)$ is

a) $\dfrac{2}{3}e^{-j\omega 3}\Lambda\left(\dfrac{\omega}{3\pi}\right)$　　**b)** $\dfrac{2}{3}e^{-j\omega 9/2}\Lambda\left(\dfrac{\omega}{3\pi}\right)$　　**c)** $\dfrac{2}{3}e^{-j\omega 9}\Lambda\left(\dfrac{\omega}{3\pi}\right)$　　**d)** none of these

6) If $X(\omega) = \text{sinc}\left(\dfrac{\omega T}{\pi}\right)$, the first nulls (zero points) are at

a)　$\omega = \pm 1$　　b) $\omega = \pm\dfrac{\pi}{T}$　　c) $\omega = 0$　　d) $\omega = \pm\dfrac{T}{\pi}$　　e) none of these

7) If $x(t) = A\cos(2t)$, $X(\omega)$ will be nonzero

a) for all ω　　b) for all $\omega = 2k$, k an integer　c) for $\omega = 2$ only　d) for $\omega = \pm 2$