Name_____ CM_____

Quiz 2

1) The integral $\int_{-t+2}^{\infty} \delta(\lambda-5)d\lambda$ is equal to

a) $u(t-5)$ b) $u(-t+2)$ c) 0 d) $u(t+3)$ e) $u(t-3)$ f) none of these

2) The integral $\int_{-\infty}^{t+3} \delta(\lambda+2)d\lambda$ is equal to

a) $u(t+2)$ b) $u(t+3)$ c) 0 d) $u(t+5)$ e) $u(t-5)$ f) none of these

3) The integral $\int_{-\infty}^{t} e^{-\lambda}\delta(\lambda-2)d\lambda$ is equal to

a) $e^{-2}u(t-2)$ b) $e^{-2}u(t)$ c) $e^{-t}u(t)$ d) $e^{-t}u(t-2)$ e) $e^{2}u(t-2)$ f) none of these

4) The integral $\int_{2}^{t-1} \delta(\lambda-1)d\lambda$ is equal to

a) 0 b) $-u(1-t)$ c) $-u(2-t)$ d) $-u(3-t)$ e) $u(t-3)$ f) none of these

5) The function $x(t)=\cos(t)+3e^{j3t}$ is

a) not periodic
b) periodic with period 2π
c) periodic with period 3π
d) periodic with period 2

6) The function $x(t) = \cos(3\pi t + 45^o) + j\sin(\pi t)$ is

a) not periodic
b) periodic with period 2π
c) periodic with period 2
d) periodic with period 1

7) The function $x(t) = 2\cos(t) + \cos(\sqrt{2}t + 30^o)$ is

a) not periodic
b) periodic with period 1
c) periodic with period 2
d) periodic with period 2π

8) If $z = \frac{j}{1+j}$, the **magnitude** of z, $|z|$ is

a) 1 b) $\frac{-1}{\sqrt{2}}$ c) $\frac{1}{\sqrt{2}}$ d) none of these

9) If $z = \frac{1-j}{1+j}$, the **phase** of z, $\angle z$, is

a) 45^o b) -45^o c) 90^o d) -90^o e) none of these

10) If we made the variable substitution $\sigma = \frac{\lambda}{2}$ in the integral $\int_0^4 e^{\lambda} x\left(\frac{\lambda}{2}\right) d\lambda$, the new integral is

a) $2\int_0^2 e^{2\sigma} x(\sigma) d\sigma$ b) $\frac{1}{2}\int_0^2 e^{\frac{\sigma}{2}} x(\sigma) d\sigma$ c) $2\int_0^4 e^{2\sigma} x(\sigma) d\sigma$ d) $\frac{1}{2}\int_0^4 e^{\frac{\sigma}{2}} x(\sigma) d\sigma$ f) none of these