

Name: _____

EE322 Fall 2012 Quiz 6

1. Find the CTFT of:

a. $x(t) = te^{-3t}u(t)$ $X(f) = \underline{\hspace{10cm}}$

b. $x(t) = e^{-j2\pi 10t}$ $X(f) = \underline{\hspace{10cm}}$

c. $x(t) = \sin 80\pi t$ $X(f) = \underline{\hspace{10cm}}$

2. Find the inverse CTFT of:

a. $X(f) = \frac{1}{(1+j2\pi f)(5+j2\pi f)}$ $x(t) = \underline{\hspace{10cm}}$

b. $X(f) = \frac{1}{(2+j2\pi f)^2}$ $x(t) = \underline{\hspace{10cm}}$

(turn over)

3. Using a fundamental period of $T_F = 1/75$ sec, write the equation for the Fourier Series Harmonic function for $x(t) = 3\cos(2\pi 150t) - 2\sin(2\pi 300t)$.

$$X[k] = \underline{\hspace{10cm}}$$

Bonus: Who is SpongeBob SquarePants' best friend?