

EE 207-Winter 2015(142)
Hw3 (Due Thursday April 16)
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Q1 Use the Definition of Fourier Transform (Integration formula) to find the Fourier Transform for the followings time signals:

(a) $f(t) = (1 - e^{-bt})u(t)$

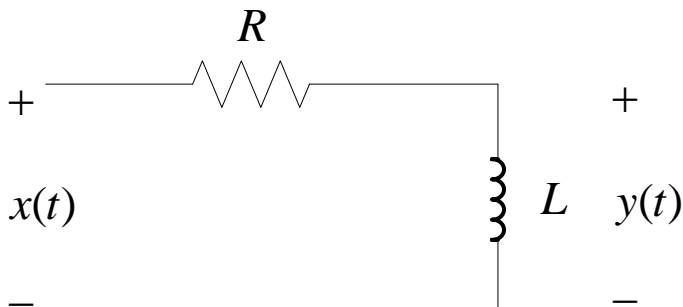
(b) $f(t) = e^{at}u(-t)$

Q2 Let $f(t) = 4\text{tri}(t/2)$ where $\text{tri}(t/T) = \begin{cases} 1 - \frac{|t|}{T} & |t| < T \\ 0 & |t| > T \end{cases}$

Find the Fourier Transform $F(\omega)$ using derivative property ?

Q3 Let $F(\omega) = \frac{1}{(a + j\omega)^3}$, find $f(t)$? (**Do not use** The Inverse Fourier Integration Formula)

Q4 If the RL circuit is show were the input is $x(t)$ and the output is $y(t)$:



(a) Find the Transform Function ?

(b) Find the Impulse response $h(t)$ using the table