ECE 3337 Summer-3 2016 Hebert, Homework 10 Due Tues 7/19

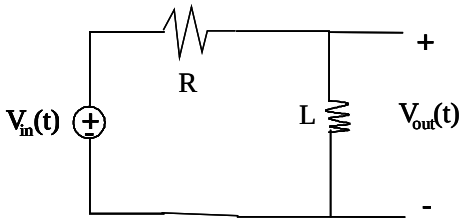
Problem 1.

(a) Apply the initial value theorem and the final value theorem to $F(s) = \dfrac{s+10}{s^2+3s+2}$

(b) Apply the initial value theorem and the final value theorem to $F(s) = \dfrac{5}{(s+1)(s^2+9)}$

Problem 2. Given $v_{in}(t) = e^{-3t}u(t)$, find $v_{out}(t)$ for the two circuits below by using circuit analysis in the LaPlace transform domain.

(a) $R = 10\,\Omega$, $L = 3\,H$, and the initial current through the 3 H inductor is $i_L(0^-) = 1.0\,A$



(b) Again, the initial current through the 3 H inductor is $i_L(0^-) = 1.0\,A$