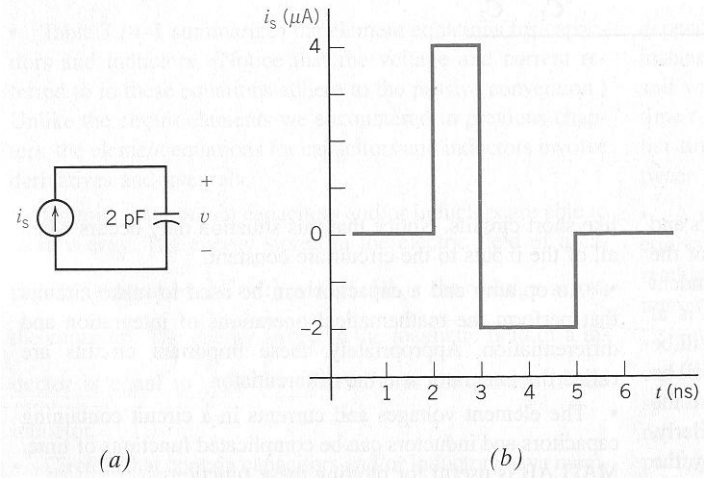
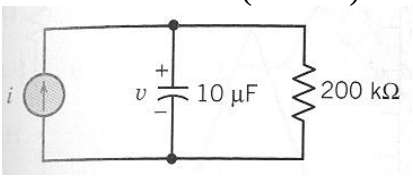
ENGR&204 Spring 2011 Homework #5 Due in one week.

Find v(t) when $v_o(0^-) = -1.0$ mV.

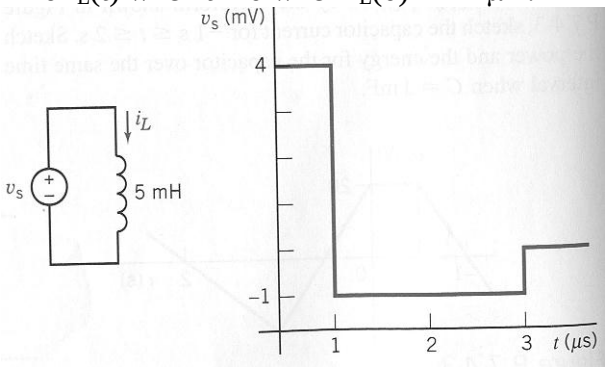


Calculate *i* if $v = 5(1 - 2e^{-2t})$ V

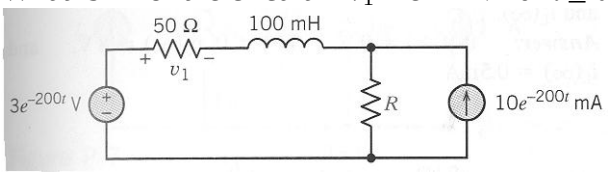


A capacitor is used in a camera electronic flash. A small battery with a constant voltage of 6.0 v is used to charge the capacitor with a constant current of 10 μA. How much time does it take to charge the capacitor when C = 10 μF? What is the stored energy?

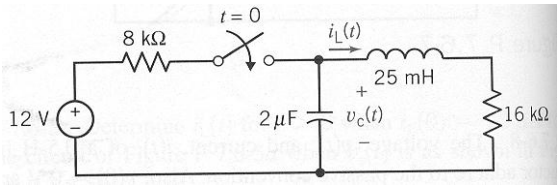
Find $i_L(t)$ when $t > 0$ when $i_L(0) = -2\mu A$.



What is R for the circuit if $v_1 = e^{-200t}$ V for $t \geq 0$?



The switch has been opened for a long time before closing at t = 0 s. What is $v_c(0+)$ and $i_L(0+)$, the values of the capacitor voltage and inductor current immediately after the switch is closed? Find $v_c(\infty)$ and $i_L(\infty)$, the values of the capacitor voltage and inductor current after the switch has been closed for a long while.


t = 0
8 kΩ
$i_L(t)$
25 mH
+
12 V
2 μF
$v_c(t)$
−
16 kΩ