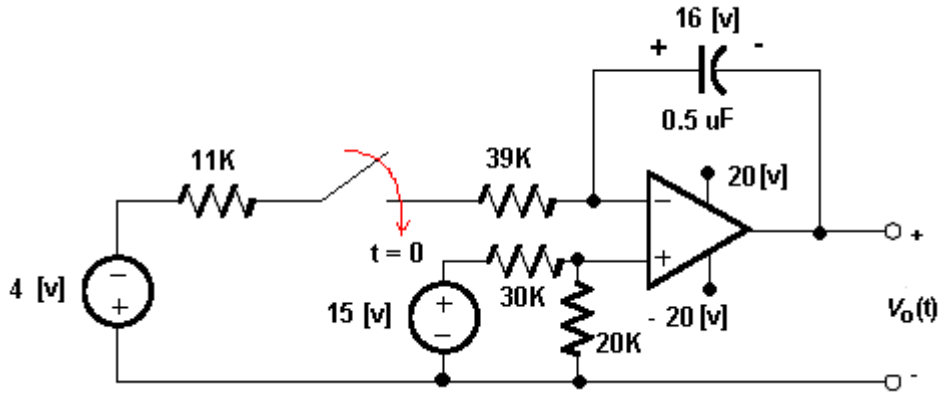
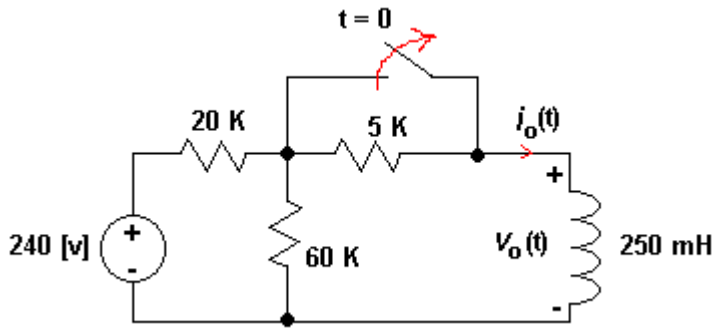
EECE202 Network Analysis I Spring 2006 Dr. Charles J. Kim

HW#3

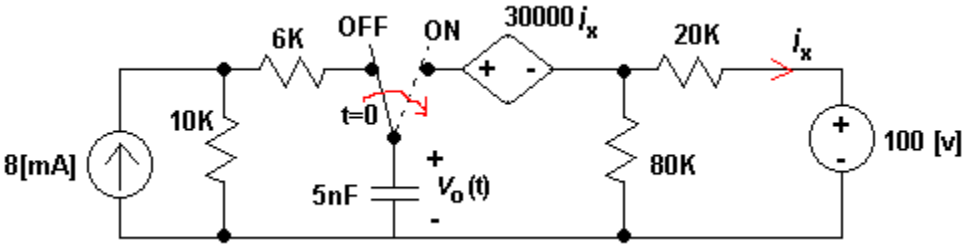
1. At the instant the switch is closed, the voltage on the capacitor is 16 [V]. The Op Amp in the circuit is ideal. How many seconds after the switch is closed will the output voltage v_o equal zero?



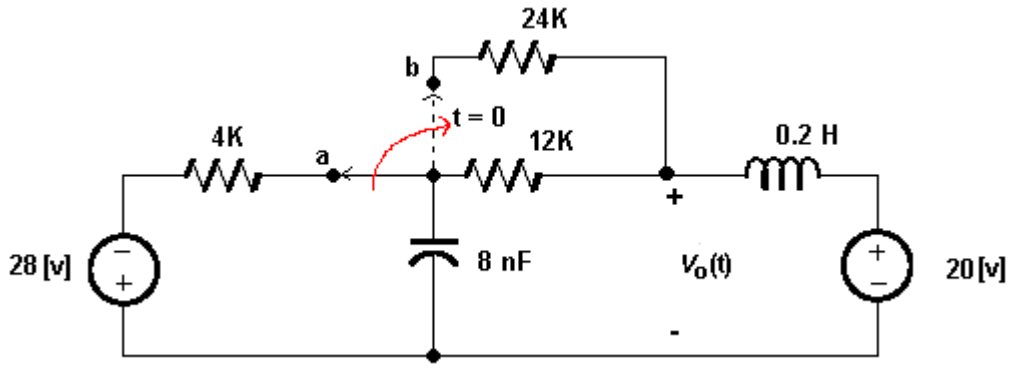
2. The switch in the circuit has been closed for a long time. The switch opens at t=0. Find the numerical expressions for $i_o(t)$ and $v_o(t)$ for $t \geq 0$.



3. The switch in the circuit has been in the OFF position for a long time. At t =0, the switch moves instantaneously to the ON position. Find $v_o(t)$ for $t \geq 0$.



4. The switch in the circuit has been in position ***a*** for a long time. At t = 0, the switch moves instantaneously to position ***b***. Find $v_o(t)$ for t≥0.



5. The switch in the circuit has been in the closed position for a long time, and at t=0, it is opened instantaneously. Find $i(t)$ for t>0. **(A final exam problem of Spring 2004)**