

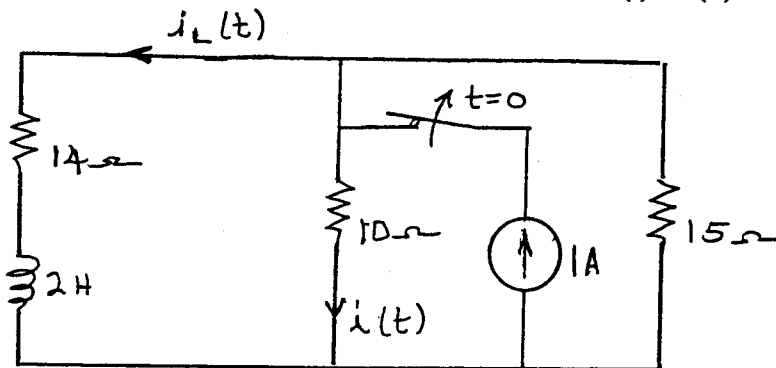
ECE 301
Fall Semester, 2002
HW Set #8

Due: October 29, 2002
wlg

Name _____
Print (last, first)

Use engineering paper. Work only on one side of the paper. Use this sheet as your cover sheet, placed on top of your work and stapled in the top left-hand corner. Number the problems at the top of the page, in the center of the sheet. **Do neat work. Underline your answers. Show how you got your equations. Be sure to show how you got your answers.**

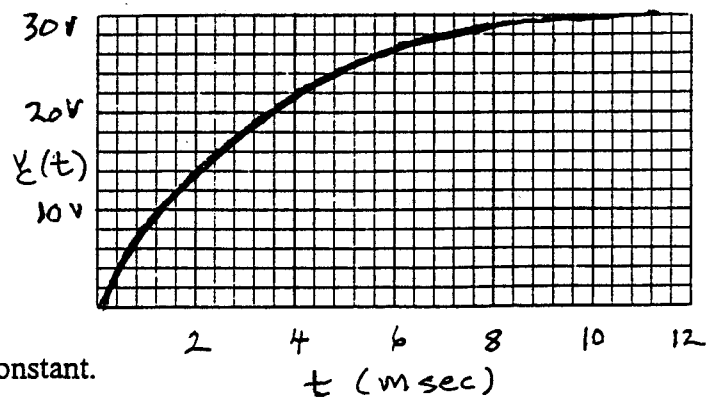
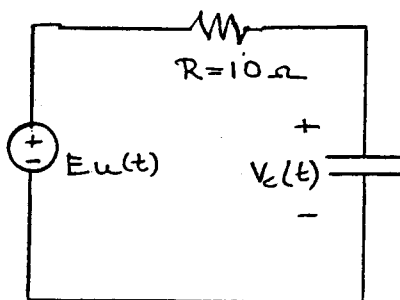
8.1 You are given the following circuit. In this circuit $i(t) = i(0) = 1$ A.



Assume the circuit is in steady state, $t < 0$.

- Reduce the circuit to the given inductor and one equivalent resistance. What is R_{eq} ?
- Determine the L/R time constant.
- Sketch the wave form for $i_L(t)$, $t \geq 0$.

8.2 You are given the following circuit. The response, $v_c(t)$, is shown to the right.



- Determine the circuit time constant.
- Determine the value of E.
- Determine the value of C.