

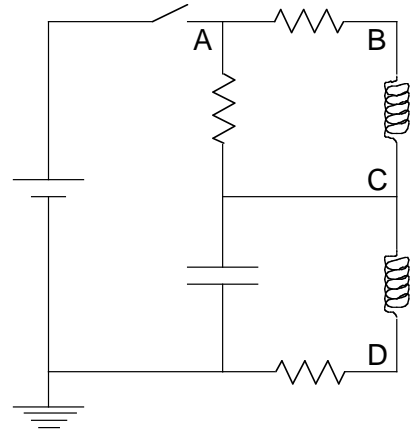
You should make sure you know how to do all of these problems. Underlined problems are particularly important to spend some time with. The boxed problems are to be “written up” (see the course syllabus) to be turned in.

This assignment is due at the *beginning* of class on Wednesday, April 25

Special Problem

In the circuit at right all circuit components are ideal and the wires are perfect conductors. The battery emf is 36 V, the capacitance is $10\ \mu\text{F}$, the inductors both have inductances of 1.0 mH, and all resistances are $6\ \Omega$. The switch has been open for a long time.

- Roughly speaking, what’s the smallest amount of time that would qualify as “a long time”?
- Just after the switch is closed, produce a simplified diagram showing all currents and the potentials at points A, B, C, and D (taking the negative terminal of the battery as “ground” or 0 potential as indicated by the grounding symbol.)
- Do the same thing for a time long after the switch is closed.
- Do the same thing representing the situation just after the switch is opened after having been closed for a long time.



Chapter 8

Section 2

8.4 8.5 8.6

End of Chapter Problems

8.9 8.11