Physics 261
Homework # 15
Remember to show your work.

1. Faissler, problem 12-1. (I get 1 mA and 3.45 s.)

2. Faissler, problem 12-3. (I get 150 mA and 0.501 s. Either Faissler had a bad day, or maybe I did?!) 

3. The switch in the circuit below begins at position 1. Since it has been sitting on the shelf for a while, the capacitor is completely discharged. At time $t = 0$, the switch is moved to position 2, then back to position 1 at $t = 3RC$. Find the capacitor voltage at $t/RC = 1$, 3, and 5.

4. The switch on circuit (i) is closed at $t = 0$.

(a) Find the current at $t = 50$ ms.
(b) At 5 s, the switch is opened. Of course, the current must then immediately go to zero. What does this imply about the voltage across the inductor?
(c) How does circuit (ii) solve this problem?
(d) Would the answer to part 4a differ for circuit (ii)?