

The switch opens at time $t = 2$ s. Before the switch opens, the system has reached steady state.

$$V_s : 20 \text{ V}$$

Find these voltages and currents (i.e., just before the switch opens):

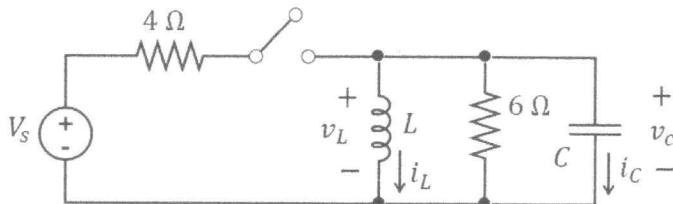
$$C : 2 \text{ nF}$$

$$i_{L1} = i_L(2^-) \quad v_{L1} = v_L(2^-) \quad i_{C1} = i_C(2^-) \quad v_{C1} = v_C(2^-)$$

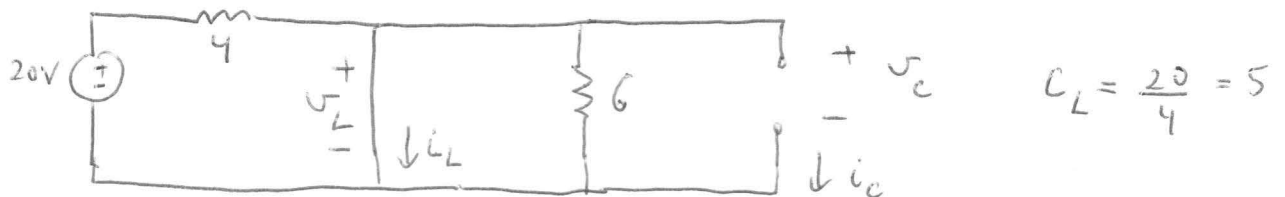
$$L : 1 \text{ mH}$$

Find these voltages and currents (i.e., just after the switch opens):

$$i_{L2} = i_L(2^+) \quad v_{L2} = v_L(2^+) \quad i_{C2} = i_C(2^+) \quad v_{C2} = v_C(2^+)$$



(a) $t = 2^-$: SWITCH IS CLOSED



$$v_L(2^-) = 0 \text{ V} \quad i_C(2^-) = 0 \text{ A} \quad v_C(2^-) = 0 \text{ V} \quad i_L(2^-) = 5 \text{ A}$$

(b) $t = 2^+$



$$i_L(2^+) = 5 \text{ A} \quad v_C(2^+) = 0 \text{ V} \quad v_L(2^+) = 0 \text{ V} \quad i_C(2^+) = -5 \text{ A}$$