Chapter 6, Solution 48.

Under steady-state dc conditions, find *i* and *v* in the circuit in Fig. 6.71.

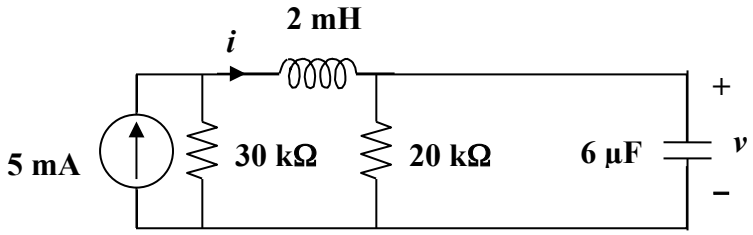
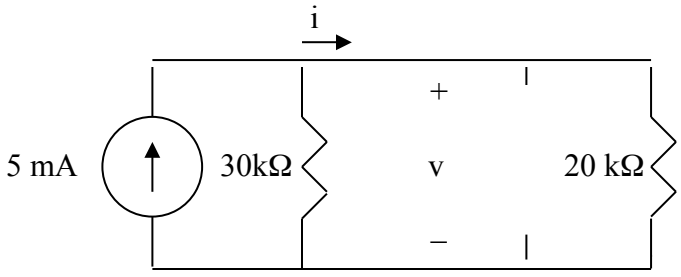


Figure 6.71
For Prob. 6.48.

Solution

Under steady-state, the inductor acts like a short-circuit, while the capacitor acts like an open circuit as shown below.



Using current division,

$$i = (30k/(30k+20k))(5mA) = \mathbf{3\ mA}$$

$$v = 20ki = \mathbf{60\ V}$$