8.4 In the circuit of Fig. 8.65, find:

(a) $v(0^+)$ and $i(0^+)$,

(b) $dv(0^+)/dt$ and $di(0^+)/dt$,

(c) $v(\infty)$ and $i(\infty)$.

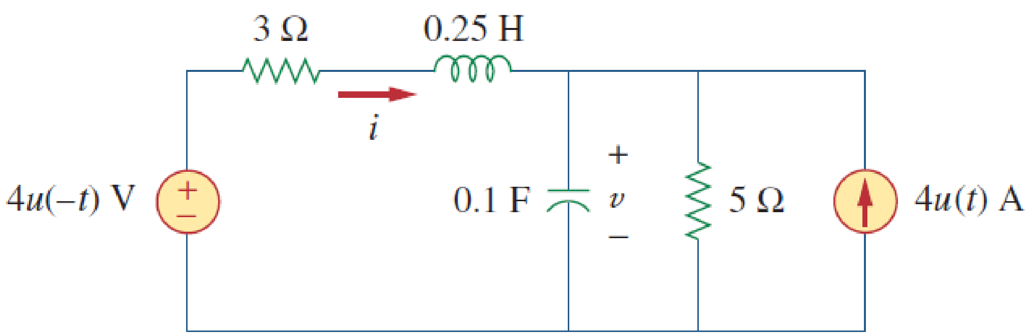

Figure 8.65
For Prob. 8.4.

8.16 Find $i(t)$ for $t > 0$ in the circuit of Fig. 8.70.

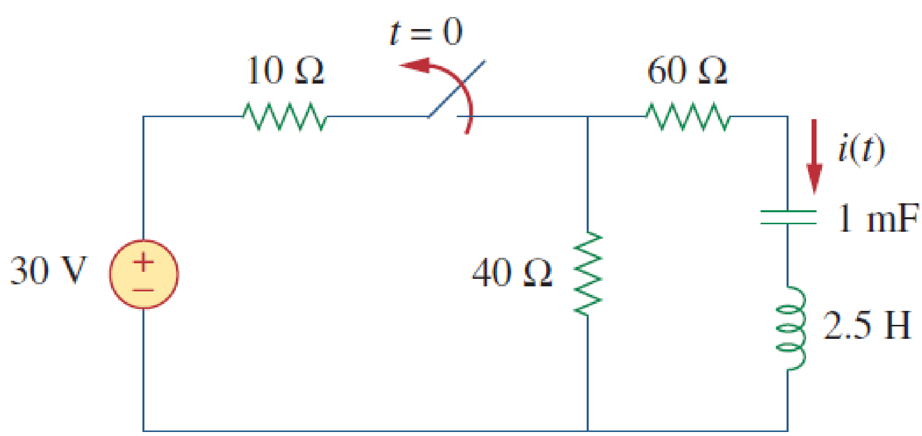

Figure 8.70
For Prob. 8.16.

8.24 The switch in Fig. 8.77 moves from position A to position B at $t = 0$ (please note that the switch must connect to point B before it breaks the connection at A, a make-before-break switch). Determine $i(t)$ for $t > 0$.

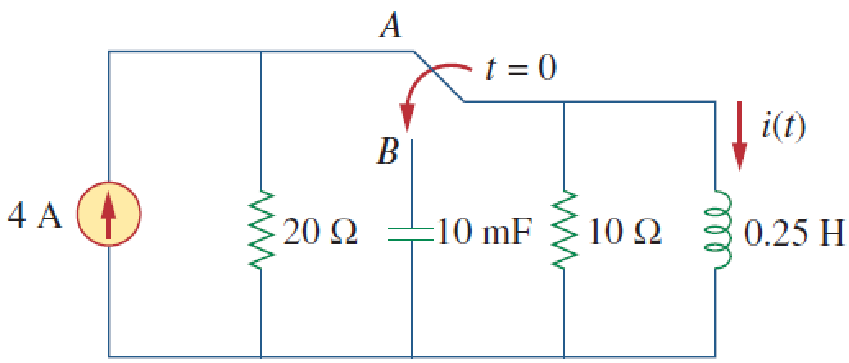

Figure 8.77
For Prob. 8.24.

8.33 Find $v(t)$ for $t > 0$ in the circuit of Fig. 8.81.

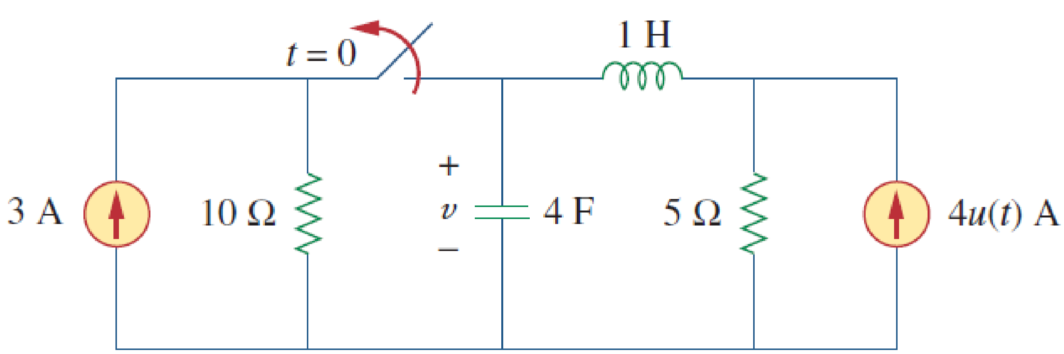

Figure 8.81
For Prob. 8.33.

8.65 Determine the differential equation for the op amp circuit in Fig. 8.110. If $v_1(0^+) = 2$ V and $v_2(0^+) = 0$ V, find v_o for $t > 0$. Let $R = 100$ kΩ and $C = 1$ μF.

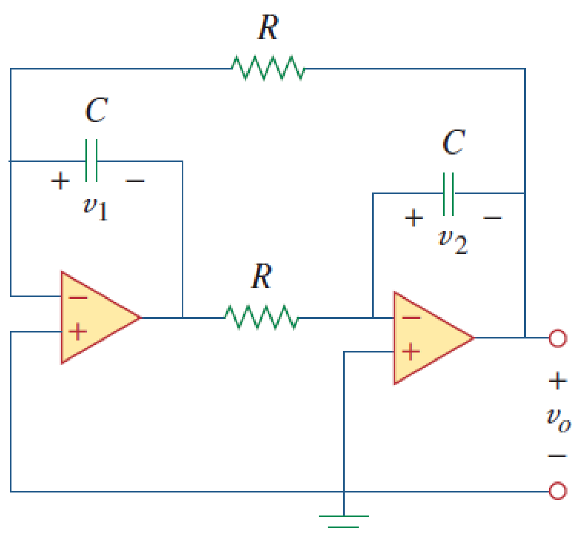

Figure 8.110
For Prob. 8.65.

8.75 Obtain the dual of the circuit in Fig. 8.119.

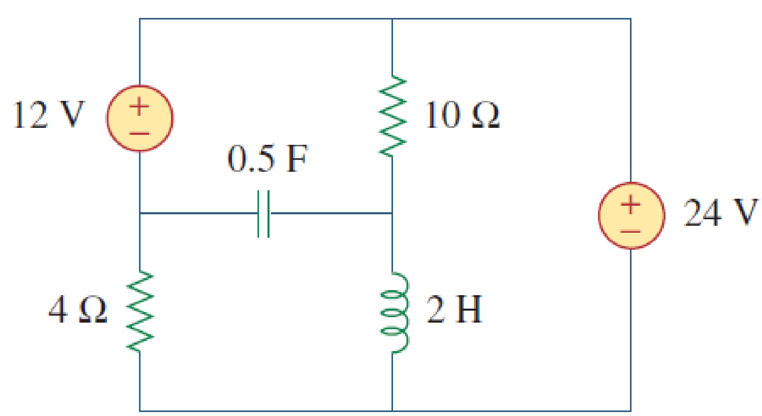

Figure 8.119
For Prob. 8.75.

9.26 The loop equation for a series *RLC* circuit gives

$$\frac{di}{dt} + 2i + \int_{-\infty}^{t} i\,dt = \cos 2t \text{ A}$$

Assuming that the value of the integral at $t = -\infty$ is zero, find $i(t)$ using the phasor method.

9.41 Find $v(t)$ in the *RLC* circuit of Fig. 9.48.

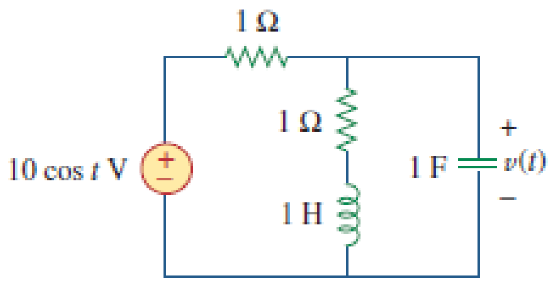

Figure 9.48
For Prob. 9.41.

9.59 For the network in Fig. 9.66, find $\mathbf{Z}_{\text{in}}$. Let ω = 10 rad/s.

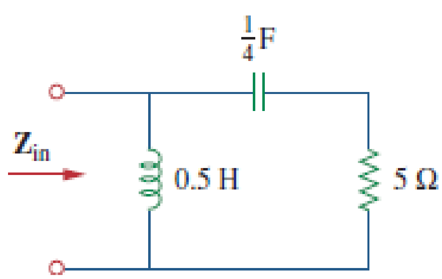

Figure 9.66
For Prob. 9.59.