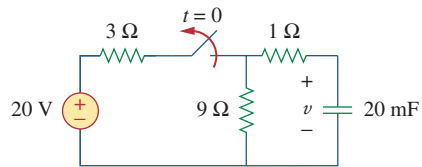
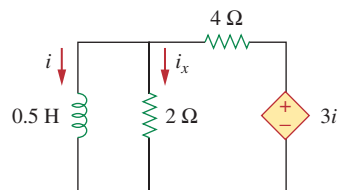


Practice 2

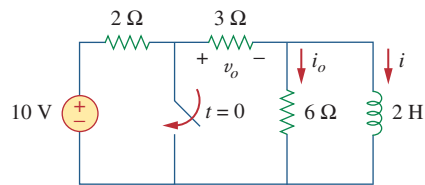
Q1. The switch in the circuit in Fig. 7.8 has been closed for a long time, and it is opened at $t = 0$. Find $v(t)$ for $t \geq 0$.



Q2. Assuming that $i(0) = 10$ A, calculate $i(t)$ and $i_x(t)$ in the circuit then find $i(t)$ when the inductor is connected with the source (the increase in the current).



Q4. In the circuit shown in Fig. 7.19, find i_o , v_o , and i for all time, assuming that the switch was open for a long time.



Q5. $e(t) = 9 \sin (200t - 80^\circ)$

From the equation above find :

Peak-to-peak value =

Maximum value =

Angular velocity =

Frequency =

Time period =

Phase angle =

Effective value =

Phasor =

Q6. A 5Ω resistor is connected in series with an inductor and a capacitor that are connected in parallel with reactance of 3Ω and 6Ω , respectively. Find the total impedance and the current, voltage, active and reactive power for each of the elements if $E = 90 \angle 90^\circ$.

Q7. A transformer with 50 primary turns and 200 secondary turns. If it has a secondary voltage of 40 V and 5 A secondary current, find the primary voltage and current if there is no loss in the power. Then find the active power if the power factor is 0.5 .