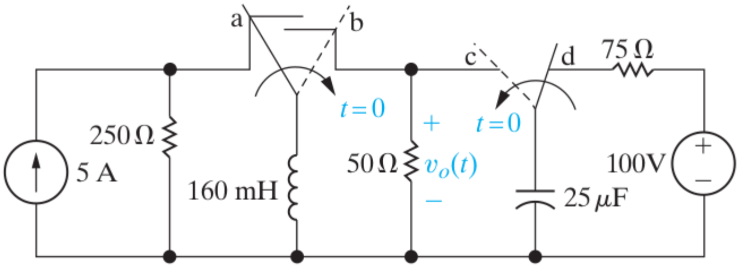
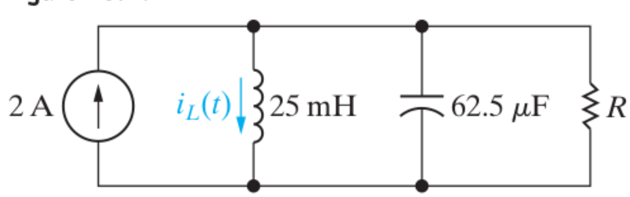
8.11 PSPICE MULTISIM The two switches in the circuit seen in Fig. P8.11 operate synchronously. When switch 1 is in position a, switch 2 is in position d. When switch 1 moves to position b, switch 2 moves to position c. Switch 1 has been in position a for a long time. At $t = 0$, the switches move to their alternate positions. Find $v_o(t)$ for $t \geq 0$.

Figure P8.11



8.27 PSPICE MULTISIM Assume that at the instant the 2A dc current source is applied to the circuit in Fig. P8.27, the initial current in the 25 mH inductor is 1 A, and the initial voltage on the capacitor is 50 V (positive at the upper terminal). Find the expression for $i_L(t)$ for $t \geq 0$ if R equals 12.5 Ω.

Figure P8.27



8.35 The switch in the circuit in Fig. P8.35 has been in the left position for a long time before moving to the right position at $t = 0$. Find

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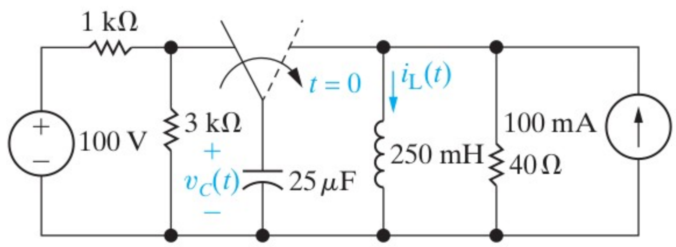
a) $i_L(t)$ for $t \geq 0$,

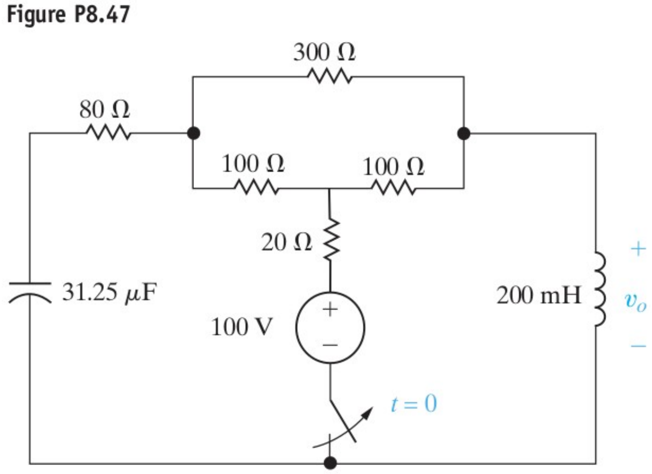
b) $v_C(t)$ for $t \geq 0$.

Figure P8.35



8.47 The switch in the circuit shown in Fig. P8.47 has been closed for a long time. The switch opens at $t = 0$. Find $v_o(t)$ for $t \geq 0^+$.

Figure P8.47



8.54 The two switches in the circuit seen in Fig. P8.55 operate synchronously. When switch 1 is in position a, switch 2 is closed. When switch 1 is in position b, switch 2 is open. Switch 1 has been in position a for a long time. At $t = 0$, it moves instantaneously to position b. Find $v_c(t)$ for $t \geq 0$.

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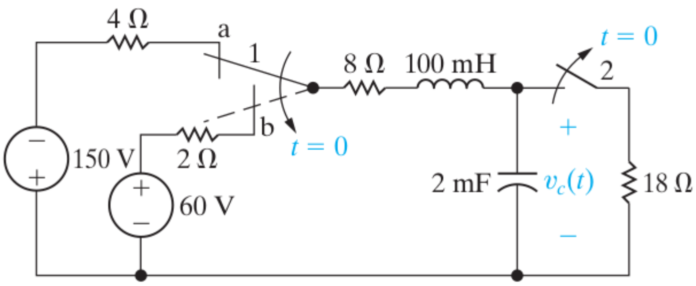
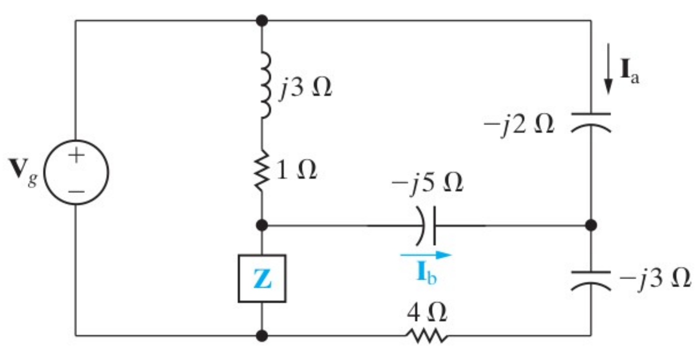
Figure P8.54



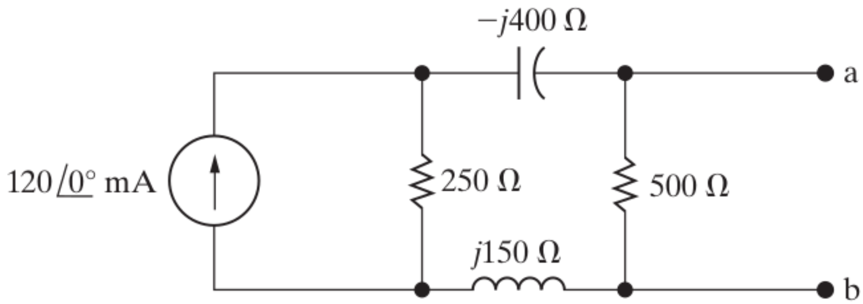
9.32 Find $\mathbf{I}_b$ and Z in the circuit shown in Fig. P9.32 if $\mathbf{V}_g = 25\angle 0^\circ$ V and $\mathbf{I}_a = 5\angle 90^\circ$ A.

Figure P9.32



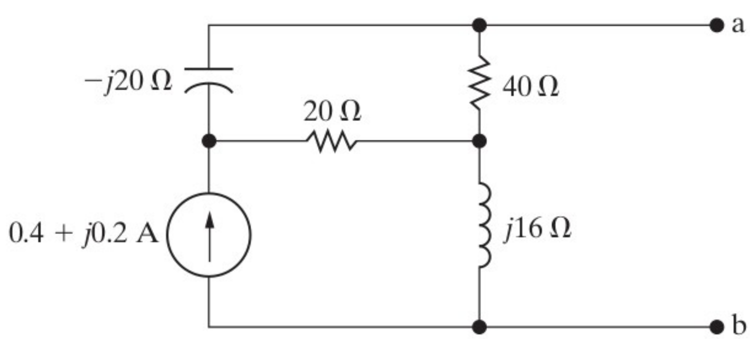
9.45 Use source transformations to find the Thévenin equivalent circuit with respect to the terminals a,b for the circuit shown in Fig. P9.45.

Figure P9.45



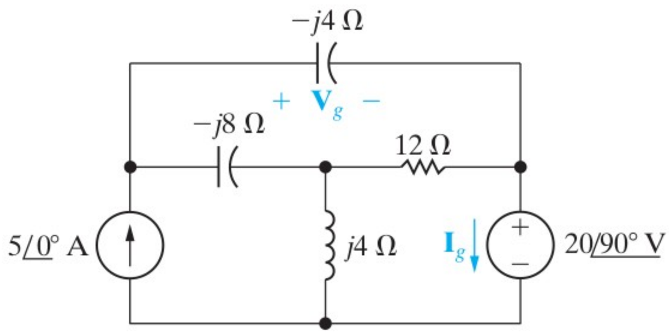
9.46 Find the Norton equivalent circuit with respect to the terminals a,b for the circuit shown in Fig. P9.46.

Figure P9.46



9.55 Use the node-voltage method to find the phasor voltage $\mathbf{V}_g$ in the circuit shown in Fig. P9.55.

Figure P9.55



9.62 Use the mesh-current method to find the branch currents $\mathbf{I}_a$, $\mathbf{I}_b$, $\mathbf{I}_c$, and $\mathbf{I}_d$ in the circuit shown in Fig. P9.62.

Figure P9.62