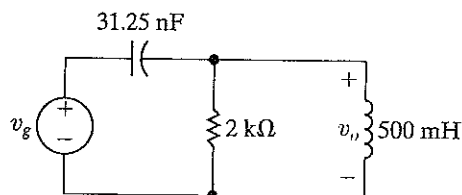


HOMEWORK 4

- 9.28** The circuit in Fig. P9.28 is operating in the sinusoidal steady state. Find the steady-state expression for $v_o(t)$ if $v_g = 64 \cos 8000t$ V.

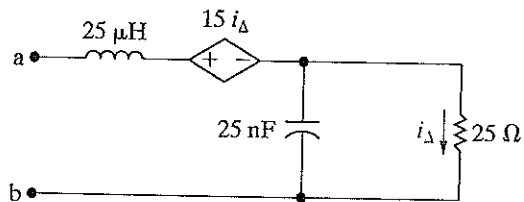
PSPICE

Figure P9.28



- 9.45** Find Z_{ab} in the circuit shown in Fig. P9.45 when the circuit is operating at a frequency of 1.6 Mrad/s .

Figure P9.45



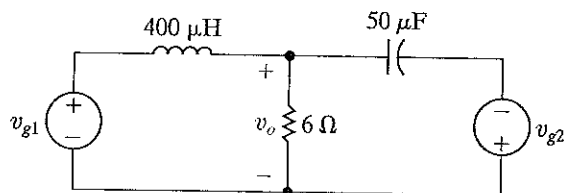
- 9.52** Use the node-voltage method to find the steady-state expression for $v_o(t)$ in the circuit in Fig. P9.52 if

PSPICE

$$v_{g1} = 10 \cos(5000t + 53.13^\circ) \text{ V},$$

$$v_{g2} = 8 \sin 5000t \text{ V}.$$

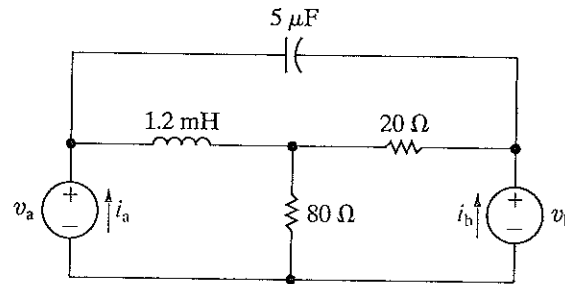
Figure P9.52



- 9.53** Use the node voltage method to find the steady-state expressions for the branch currents i_a and i_b in the circuit seen in Fig. P9.53 if $v_a = 100 \sin 10,000t$ V and $v_b = 500 \cos 10,000t$ V.

PSPICE

Figure P9.53



- 9.61** Use the mesh-current method to find the steady-state expression for v_o in the circuit seen in Fig. P9.61, if v_g equals $72 \cos 5000t$ V.

PSPICE

Figure P9.61

