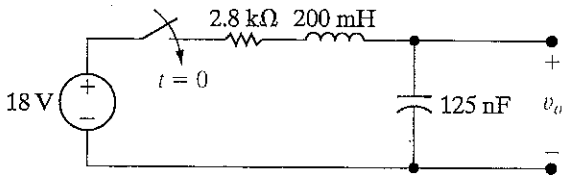
HOMEWORK 4

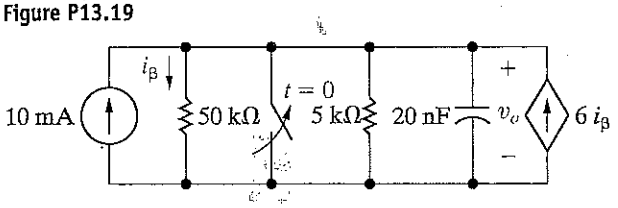
13.15 PSPICE MULTISIM Find V_o and v_o in the circuit shown in Fig. P13.15 if the initial energy is zero and the switch is closed at $t = 0$.

Figure P13.15



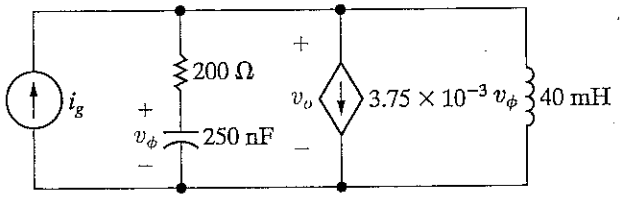
13.19 PSPICE MULTISIM The switch in the circuit in Fig. P13.19 has been closed for a long time before opening at $t = 0$. Find v_o for $t \geq 0$.

Figure P13.19



13.20 PSPICE MULTISIM Find v_o in the circuit shown in Fig. P13.20 if $i_g = 5u(t)$ mA. There is no energy stored in the circuit at $t = 0$.

Figure P13.20



13.27 PSPICE MULTISIM There is no energy stored in the circuit in Fig. P13.27 at the time the current source is energized.

a) Find I_a and I_b.

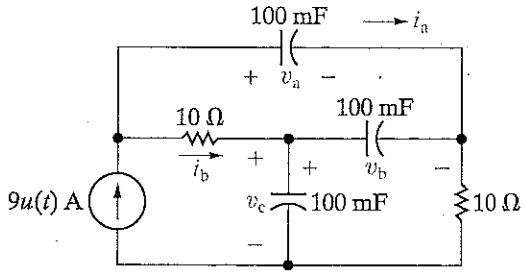
b) Find i_a and i_b.

c) Find V_a, V_b, and V_c.

d) Find v_a, v_b, and v_c.

e) Assume a capacitor will break down whenever its terminal voltage is 1000 V. How long after the current source turns on will one of the capacitors break down?

Figure P13.27



13.28 PSPICE MULTISIM There is no energy stored in the circuit in Fig. P13.28 at $t = 0^-$.

a) Find V_o.

b) Find v_o.

c) Does your solution for v_o make sense in terms of known circuit behavior? Explain.

Figure P13.28