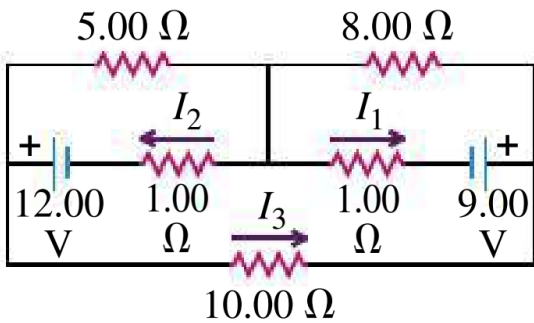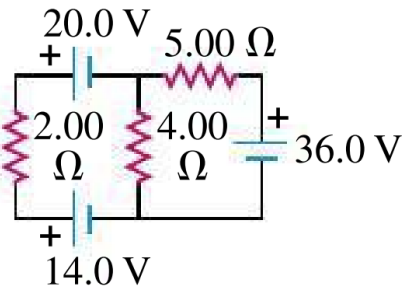**26.59** • Calculate the three currents I_1, I_2, and I_3 indicated in the circuit diagram shown in **Fig. P26.59**.

Figure **P26.59**

26.61 • Find the current through each of the three resistors of the circuit shown in **Fig. P26.61**. The emf sources have negligible internal resistance.

Figure **P26.61**

26.62 • (a) Find the current through the battery and each resistor in the circuit shown in **Fig. P26.62**. (b) What is the equivalent resistance of the resistor network?
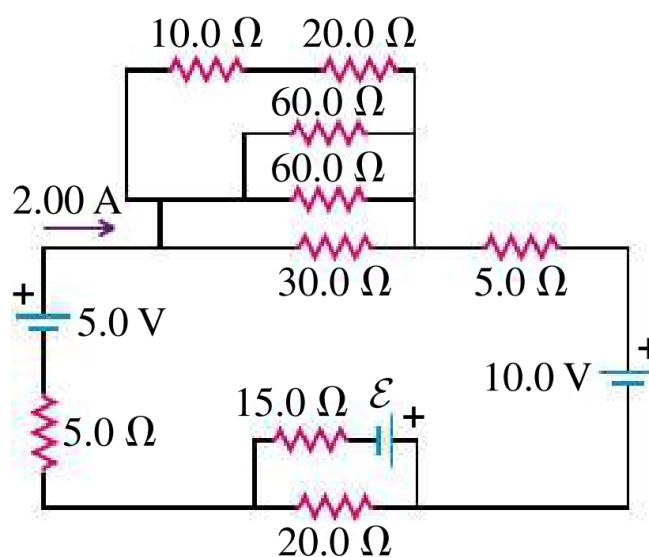
Figure **P26.62**

$R_1 = 1.00 \ \Omega$ $R_2 = 2.00 \ \Omega$
$+ \ 14.0$ V $R_3 = 1.00 \ \Omega$
$R_4 = 2.00 \ \Omega$ $R_5 = 1.00 \ \Omega$
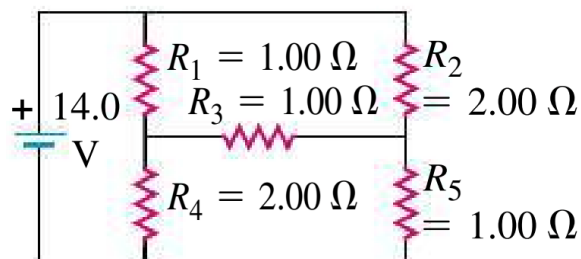
**26.63** •• Consider the circuit shown in **Fig. P26.63**. (a) What must the emf $\mathcal{E}$ of the battery be in order for a current of 2.00 A to flow through the 5.00-V battery as shown? Is the polarity of the battery correct as shown? (b) How long does it take for 60.0 J of thermal energy to be produced in the 10.0-Ω resistor?
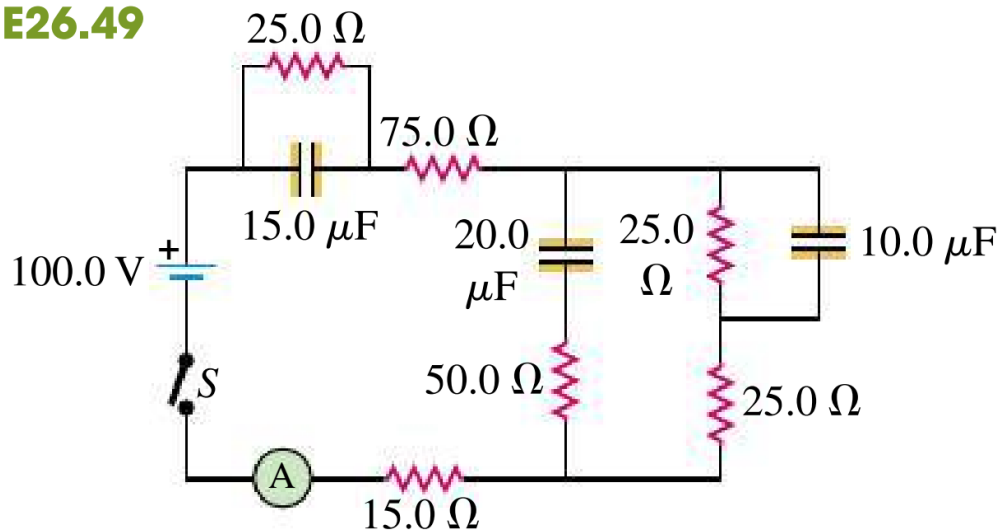
Figure **P26.63**

26.47 •• **CP** In the circuit shown in **Fig. E26.47** each capacitor initially has a charge of magnitude 3.50 nC on its plates. After the switch S is closed, what will be the current in the circuit at the instant that the capacitors have lost 80.0% of their initial stored energy?

Figure **E26.47**
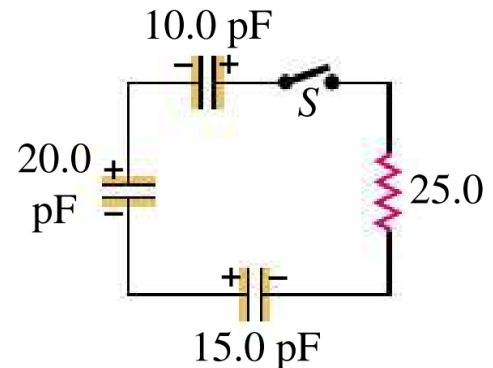
26.49 • In the circuit in **Fig. E26.49** the capacitors are initially uncharged, the battery has no internal resistance, and the ammeter is idealized. Find the ammeter reading (a) just after the switch S is closed and (b) after S has been closed for a very long time.

Figure **E26.49**

26.70 • The capacitor in Fig. **P26.70** is initially uncharged. The switch S is closed at $t = 0$. (a) Immediately after the switch is closed, what is the current through each resistor? (b) What is the final charge on the capacitor?

Figure **P26.70**

$R_1 = 8.00\ \Omega$

S

$+\ \mathcal{E} = 42.0\ \text{V}$

$R_2 = 6.00\ \Omega$

$R_3 = 3.00\ \Omega$

$C = 4.00\ \mu\text{F}$
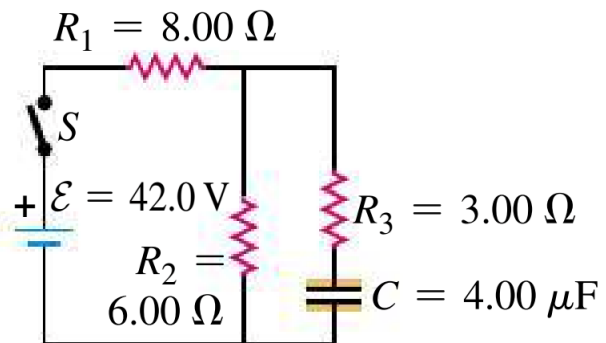
26.75 • (See Problem 26.67.) (a) What is the potential of point a with respect to point b in Fig. **P26.75** when the switch S is open? (b) Which point, a or b, is at the higher potential? (c) What is the final potential of point b with respect to ground when S is closed? (d) How much does the charge on each capacitor change when S is closed?

Figure **P26.75**

$V = 18.0\ \text{V}$

$6.00\ \Omega$

$6.00\ \mu\text{F}$

a S b

$3.00\ \mu\text{F}$

$3.00\ \Omega$