

27A

The circuit in Figure P28.29 has been connected for a long time. (a) What is the potential difference across the capacitor? (b) If the battery is disconnected from the circuit, over what time interval does the capacitor discharge to one-tenth of its initial voltage?

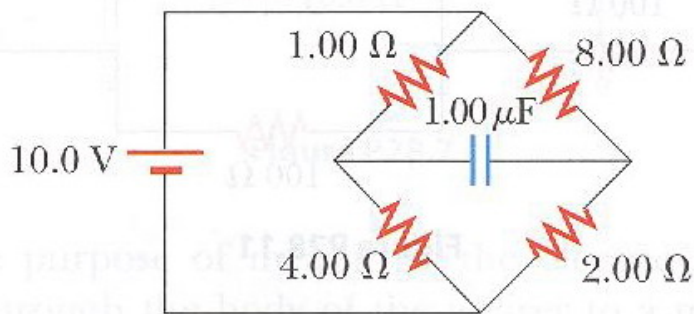


Figure P28.29

27B

When two unknown resistors are connected in series with a battery, the battery delivers total power \mathcal{P}_s and carries a total current of I . For the same total current, a total power \mathcal{P}_p is delivered when the resistors are connected in parallel. Determine the value of each resistor.

27C

Three 60.0-W, 120-V lightbulbs are connected across a 120-V power source as shown in Figure P28.49. Find (a) the total power delivered to the three lightbulbs and (b) the potential difference across each. Assume the resistance of each lightbulb is constant (even though in reality the resistance might increase markedly with current).

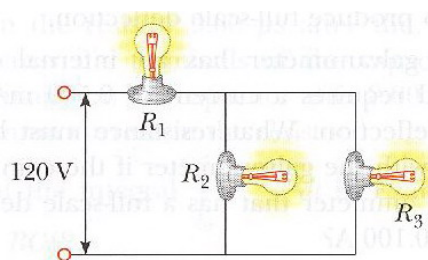


Figure P28.49