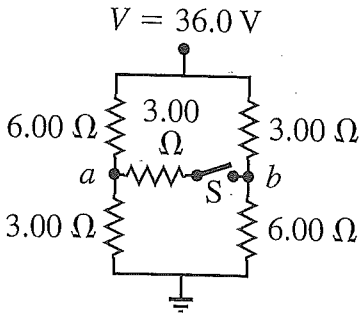
26.46. A 12.0-μF capacitor is charged to a potential of 50.0 V and then discharged through a 175-Ω resistor How long does it take the capacitor to lose (a) half of its charge and (b) half of its stored energy?

26.73. Figure 26.75 employs a convention often used in circuit diagrams. The battery (or other power supply) is not shown explicitly. It is understood that the point at the top, labeled "36.0 V," is connected to the positive terminal of a 36.0-V battery having negligible internal resistance, and that the "ground" symbol at the bottom is connected to the negative terminal of the battery. The circuit is completed through the battery, even though it is not shown on the diagram. (a) What is the potential difference V_{ab}, the potential of point a relative to point b, when the switch S is open? (b) What is the current through switch S when it is closed? (c) What is the equivalent resistance when switch S is closed?

Figure **26.75** Problem 26.73.



26.69. In the circuit shown in Fig. 26.73, the current in the 20.0-V battery is 5.00 A in the direction shown and the voltage across the 8.00-Ω resistor is 16.0 V, with the lower end of the resistor at higher potential. Find (a) the emf (including its polarity) of the battery X; (b) the current I through the 200.0-V battery (including its direction); (c) the resistance R.

Figure **26.73** Problem 26.69.