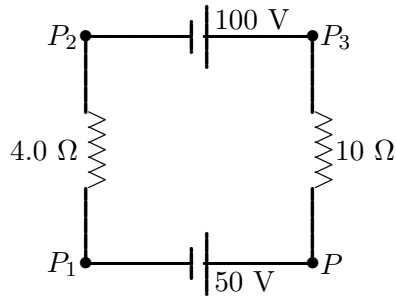


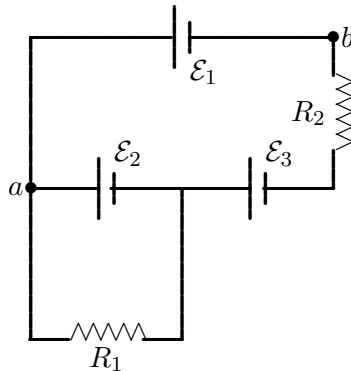
Problems

Chapter 6

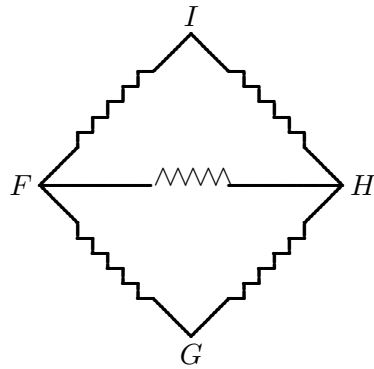
1. In the following circuit, if the potential at point P is 50V, find the potentials at P_1 , P_2 and P_3 .



2. A car battery is rated to have an emf of 12V. However, when a voltmeter is connected to its terminals, it reads 1.5V. If the voltmeter has a resistance 400k Ω , find the internal resistance of the battery.
3. In the following circuit find the current in all branches and the potential difference between points a and b . $\mathcal{E}_1 = 5.0\text{V}$, $\mathcal{E}_2 = 4.0\text{V}$, $\mathcal{E}_3 = 2.0\text{V}$, $R_1 = 10\Omega$, and $R_2 = 5.0\Omega$.



4. In the following network each resistor has a resistance R .
- Find the equivalent resistance between the points F and H .
 - Find the equivalent resistance between the points F and G .



5. In the following circuit $R_1 = 5.0\Omega$, $R_2 = 2.0\Omega$, $\mathcal{E}_1 = 8.0\text{V}$, $\mathcal{E}_2 = 4.0\text{V}$, and $\mathcal{E}_3 = 2.0\text{V}$.

- (a) Find the current in each branch.
- (b) Find the potential difference between the points a and b .

