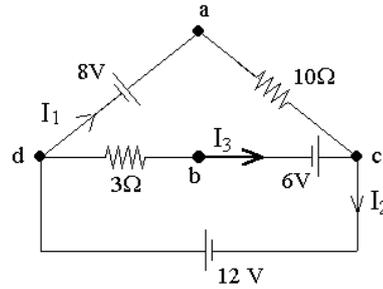
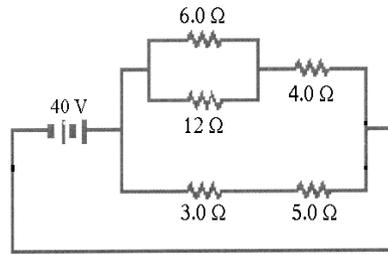
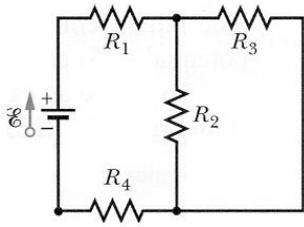


Chapter 27 (Circuits)

1- In the figure, all the resistors have a value of 2 Ohms. The battery is ideal with an emf = 15 V. What is the potential difference across the resistor R_3 ? (A: 3.0 Volts)

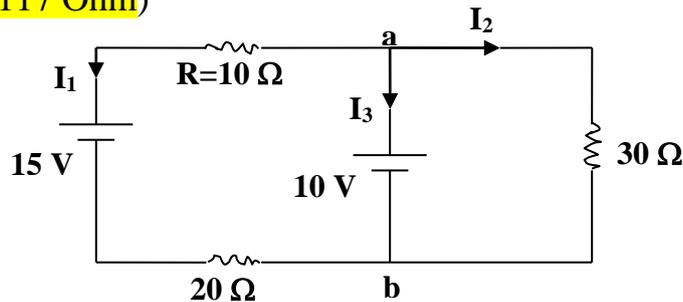
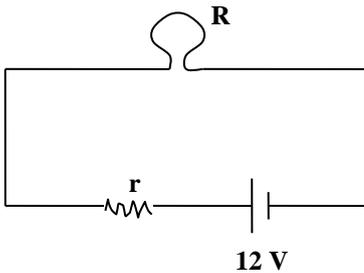


2- The current in the 5.0-ohm resistor in the circuit shown in the figure is: (A: 5.0 A)

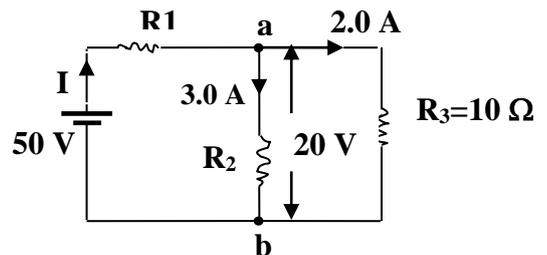
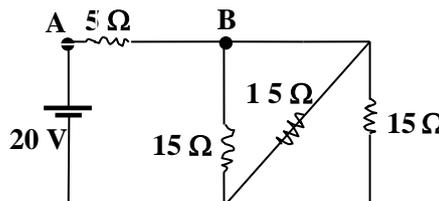
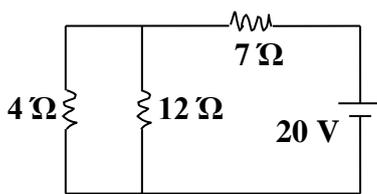
3- In the figure, what is the potential difference $V_a - V_b$? (A: 26 V)

4- At $t = 0$, a 2.0×10^{-6} Farad capacitor is connected in series to a 20-V battery and a 2.0×10^6 Ohm resistor. How long does it take for the potential difference across the capacitor to be 12 V? (A: 3.7 s)

5- In the figure, a battery of emf of 12-Volt and internal resistance of $r = 3.0$ Ohm is connected to a bulb of resistance R . If the bulb will light at a steady current of 0.1 A, what should the value of R be? (A: 117 Ohm)



6- In the figure, if $R = 10$ Ohm find the current in R . (A: -0.2 A)



7- What is the power dissipated in the 4.0-Ohm resistor in the figure. (A: 9.0 W)

8- Find the potential difference ($V_B - V_A$) between points B and A of the circuit shown in figure. (A: -10 volts)

9- Find the value of R_1 in the circuit of the figure. (A: 6.0 ohms)

10- A 6-V battery supplies a total of 48 W to two identical light bulbs connected in parallel. The resistance (in ohm) of each bulb is: (A: 1.5)

11- A capacitor, initially uncharged in a single-loop RC circuit, is charged to 85% of its final potential difference in 2.4 s. What is its time constant in seconds? (A: 1.3)