

1. A portable radio is connected to a 9.0 V battery and draws a current of 25 mA. What is the resistance of the radio?
2. An electric clothes-dryer is connected to a 230 V source of electric potential. If it offers a resistance of $9.2\ \Omega$, calculate the current the clothes-dryer draws.
3. A large tube in a television set has a resistance of $5.0 \times 10^6\ \Omega$ and draws a current of 160 mA. What is the potential difference across the tube?
4. An electric toaster has a resistance of $12\ \Omega$. What current will it draw from a 120 V power supply?
5. What potential difference is required to produce a current of 8.0 A in a load having a resistance of $64\ \Omega$?
6. An iron, designed for use at 120 V and 5.0 A, is connected to a 240 V power supply. Calculate the current the iron will draw at the higher potential and state what will happen to the iron.

Answers: 1. $3.6 \times 10^2 \Omega$ 2. 25 A 3. $8.0 \times 10^5 \text{ V}$
4. 10 A 5. $5.1 \times 10^2 \text{ V}$ 6. 10 A.....danger of electrical fire