

## Science & Technology 404

### Series Circuits

1. A 4 amp current flows through a 25 ohm light bulb. What is the voltage drop across the light?
2. A 60 ohm light and a 40 ohm light are connected in series to a 12 volt battery.
  - a. What is the current through each bulb?
  - b. What is the voltage drop across each resistor?
3. Two lamps are connected in series to a 120 volt battery and the current is 0.6 amps. One lamp has a resistance of 100 ohms.
  - a. What is the resistance of the other lamp?
  - b. What is the voltage across each lamp?
4. Three resistors ( $100\ \Omega$ ,  $200\ \Omega$  and  $500\ \Omega$ ) are connected in series and the current is 5 A.
  - a. What is the voltage drop across each resistor?
  - b. What is the battery voltage?
5. Two resistors are connected to a battery and the current is 3 A. There is a 12 V drop across the first resistor. What is the voltage drop across each resistor if the voltage of the battery is 48 V?
6. Three resistors ( $R_1$ ,  $R_2$ , and  $R_3$ ) are connected in series to a 50 V battery and the current is 5 A.  $R_1$  is 4 ohms.  $R_2$  has a voltage drop of 20 V across it. Find the resistance of  $R_2$  and  $R_3$  and the voltage drop across  $R_1$  and  $R_3$ .