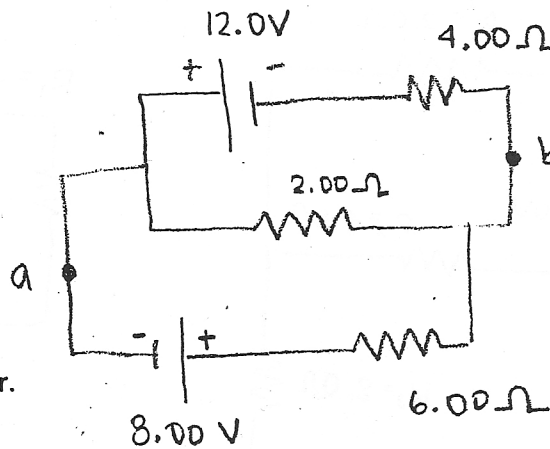


Current Review

1. A 2.0 V potential difference is maintained across a 1.5 m length of tungsten wire with a circular cross-section of radius 0.10 mm. The resistivity of tungsten is $5.25 \times 10^{-8} \Omega \cdot \text{m}$.
 - a. What is the resistance of the wire?
 - b. What is the current flowing through the wire?
 - c. What is the current density (assumed uniform) in the wire? ($J = I/A$)
 - d. What is the power dissipated in the wire?
 - e. What is the power provided by the voltage source? How does it compare to the power found above?

2. Consider the circuit shown below.



- a. Calculate the current in each resistor.

- b. Find the potential difference between points *a* and *b*.
- c. Find the power dissipated in the 2.00 Ω resistor.