20-2

Concept Review

Resistors in Series or in Parallel

For each item, sketch a schematic diagram of the circuits and label the components properly.

- 1. A 12.0 V battery is connected to two resistors in series: R_1 = 12.00 Ω , R_2 = 4.00 Ω .
 - **a.** Find R_{eq} , the equivalent resistance in this circuit.
 - **b.** Find the current in the battery and the current in each resistor.
 - **c.** What is the potential difference, ΔV_{eq} , across the equivalent resistance? What is ΔV across each of the resistors?
- **2.** A 12 V battery is connected to two resistors in parallel: R_1 = 12.00 Ω , R_2 = 4.00 Ω .
 - **a.** Find R_{eq} , the equivalent resistance in this circuit.
 - **b.** Find the potential difference, ΔV_{eq} across the equivalent resistance.
 - **c.** What is the current in the equivalent resistance? What is the current in the battery? What is the current in each resistor?
 - d. What is the potential difference across each of the resistors?