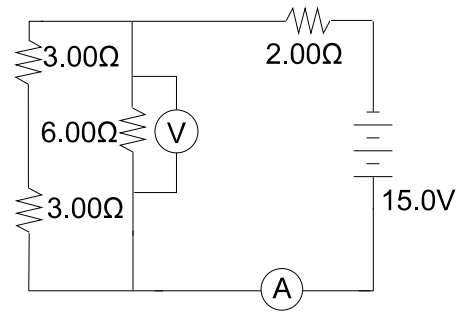


# 15 Electrodynamics

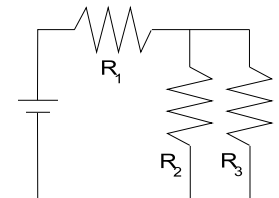
1. Use the diagram at right to answer the following questions. You may use a table to guide your work, but you must show all relevant equations and calculations in the spaces below.



- a) What is the effective resistance of the parallel part of the circuit? *(3.00 Ω)*
- b) What is the total resistance of the entire circuit?
- c) What is the reading on the ammeter?
- d) What is reading on the voltmeter?

2. Fill out the table for the circuit diagramed at right. Showing work is optional here.

Circuit Position	Voltage (V)	Current (A)	Resistance (Ω)
1		0.200	30.0
2			20.0
3	3.00		
Total			



3. Two  $12.0 \Omega$  resistors and a  $6.00 \Omega$  resistor are each connected in parallel. A  $15.0 \Omega$  resistor is added to the parallel group in series. All of them are connected to a single voltage source, and an ammeter is placed to measure total current.

- a) Draw the circuit, including the resistors, source, and ammeter.
- b) Calculate the voltage of the source if the ammeter shows a reading of  $2.00 \text{ A}$ . Show your equation and all work.