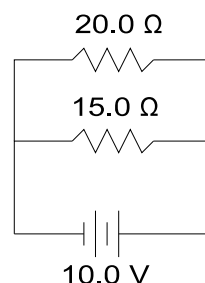


# 15 Electrical Circuits

1. What is the total or effective resistance of the circuit shown in the diagram at right?



2. How much voltage is there across the 20.0 Ω resistor?

3. How much current moves through the 20.0 Ω resistor?

4. How much voltage is there across the 15.0 Ω resistor?

5. How much current moves through the 15.0 Ω resistor?

6. Calculate the sum of answers three and five and show it below. It should equal the total current found by dividing the battery voltage by the total resistance calculated in problem 1. If it doesn't, you need to go back and rework 1-5.

7. The circuit shown below has two numbered resistors, a voltmeter, and an ammeter positioned as shown. Use Ohm's Law and the properties of parallel circuits to complete the table. (Hint: One way to avoid rounding errors is to place any unrounded numbers outside the table near the rounded ones you place in the boxes. **Make sure your box entries have 3 significant figures.**)

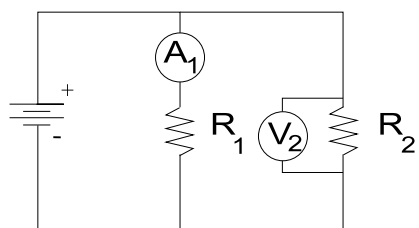


Diagram Position	Voltage (V)	Current (A)	Resistance (Ω)
1		0.100	
2	6.00		12.0
Total			

8. The circuit shown below has three numbered resistors and an ammeter positioned as shown. Use Ohm's Law and the properties of parallel circuits to complete the table.

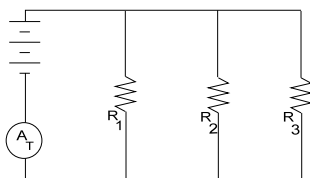


Diagram Position	Voltage (V)	Current (A)	Resistance (Ω)
1			250
2			500
3			750
Total		3.00	