Lab #3 Parallel Circuits and The Effects of Resistance in a Circuit name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Lab #7 Measuring the current and voltage in a parallel circuit.**

Q1. Build and draw the parallel circuit with 2 batteries, 3 bulbs, ammeter, voltmeter and switch below.

Q2. Complete the following table.

|  |  |  |
| --- | --- | --- |
| Position of Ammeter/Voltmeter | Current/ Amperes | Voltage |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
| 4 |  |  |
| 5 |  |  |

Q3. Looking at the table above what do you notice about the current in the circuit? How about the voltage?

Q4. If you add the currents at positions (2), (3), and (4) together. How do they relate to the current at position (1)?

Q5. Setup the circuit found in the extension portion of the lab. Fill out the table below. What do you notice about the current and voltage going through both branches of the circuit?

**Lab #8 The Effect of a Resistance in a Circuit**

Q1. Build and draw a simple circuit with 2 batteries, one bulb, a switch, ammeter, and voltmeter below. Take the needed measurements to complete the table on Q4.

Q2. Build and draw a series circuit with 2 batteries, 2 bulbs, a switch, ammeter, and voltmeter below. Take the needed measurements to complete the table on Q4.

Q3 Build and draw a parallel circuit with 2 batteries, 3 bulbs, a switch, ammeter, and voltmeter below. Take the needed measurements to complete the table on Q4

Q4. Complete the table below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Bulbs | Current in Amperes | Brightness of bulbs | Total resistance | Bulb resistance |
| 1 bulb in series |  |  |  |  |
| 2 bulbs in series |  |  |  |  |
| 3 bulbs in parallel |  |  |  |  |

Q5. Setup the following circuit and predict which bulb would be the brightest? What is the current and voltage going through (1), (2), (3). Is the total resistance different for this circuit compared to 3 bulbs in parallel?