**Practice Drawing Circuits Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |  |
| --- | --- | --- |
|  | **Series** | **Parallel** |
| Voltage |  |  |
| Current |  |  |
| Resistance |  |  |
|  |  |  |
| How many different branches can you have? |  |  |
| If you take out one light bulb, what will happen to the rest of the bulbs? |  |  |

1. **Draw a series circuit** with the following components:

* One 9 volt battery
* Two resistors with 1.5 Ω of resistance each

Answer the following questions about the first circuit:

1. What is the **total resistance** in the circuit? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. How much **current** is going through the circuit?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. How much **current does *each* resistor get**?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. What is the **voltage drop across *each* resistor**?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. **Draw a series circuit** with the following components:

* One 1.5 volt battery
* Three equal resistors
* A current of 0.5 A

Answer the following questions about the third circuit:

1. What’s the **total resistance** in the circuit? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. How much is the **voltage drop for each resistor**? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. **Draw a parallel circuit** with the following components:

* Two 1.5 volt batteries
* Two branches: One branch has a 3 Ω resistor, one branch has a 2Ω resistor

Answer the following questions about the second circuit:

1. How much **voltage does the 3 Ω resistor get**? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. How much **current goes through each branch**? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_