In a Row Math Worksheet Answers

1. Draw a circuit diagram for a circuit that has one battery and two light bulbs connected in series.

2. For the above circuit, one bulb has a resistance of 2 \( \Omega \) and a second bulb has a resistance of 3 \( \Omega \). The total resistance for two bulbs in series is equal to the sum of their resistances.

Use this equation to find the total resistance of the circuit: \[ R_{\text{total}} = R_1 + R_2 \]

\[ 2 \text{ Ohms} + 3 \text{ Ohms} = 5 \text{ Ohms} \]

3. For a circuit that has one battery and two light bulbs connected in series, one bulb has a resistance of 1 \( \Omega \), and the total resistance of the circuit is 6 \( \Omega \). What is the resistance of the second light bulb?

\[ 6 \text{ Ohms} - 1 \text{ Ohm} = 5 \text{ Ohms} \]

4. If a circuit has two 1.5 V batteries in series, what is the voltage across the two batteries?

\[ 1.5 \text{ V} + 1.5 \text{ V} = 3.0 \text{ V} \]

5. If a circuit has two 1.5 V batteries in series and one 3 \( \Omega \) light bulb, what is the current in the circuit?

Use the Ohm’s law equation: \[ I = \frac{V}{R} \]

\[ 3.0 \text{ V} / 3 \text{ Ohms} = 1 \text{ Ampere} \]

Electricity: Lesson 5, Bulbs and Batteries in a Row Activity — In a Row Math Worksheet Answers