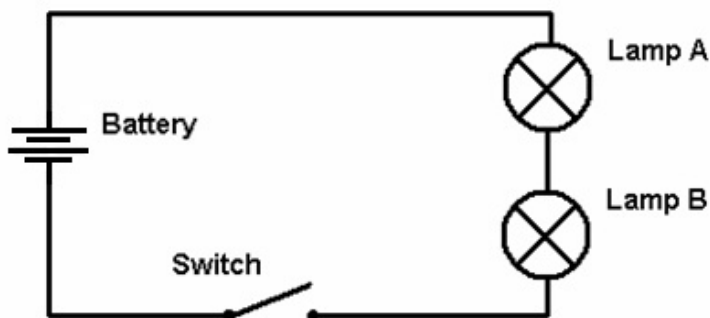




In a Row Math Worksheet Answers

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 2Ω and a second bulb has a resistance of 3Ω . 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 1Ω , and the total resistance of the circuit is 6Ω . 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 3Ω light bulb, what is the current in the circuit?

$1.5 \text{ V} + 1.5 \text{ V} = 3.0 \text{ V}$

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

Use the Ohm's law equation: $I = \frac{V}{R}$

I = current (in amps)

V = voltage (batteries used)

R = resistance (bulbs used)