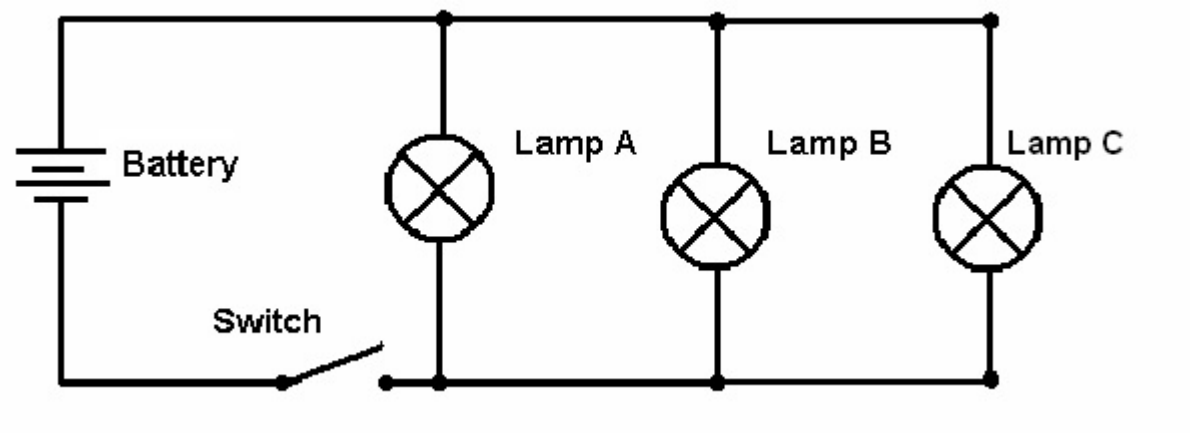
Name: _____ **Date:** _____

Parallel Circuit Math Worksheet Answers

1. Draw a circuit diagram for a circuit with one battery and three light bulbs in parallel.



2. A circuit has one battery and two light bulbs in parallel. One bulb has a resistance of 2Ω and the second bulb has a resistance of 3Ω. The total resistance for two bulbs in parallel is equal to the product of their resistances divided by the sum of their resistances. Find the total resistance of the circuit.

Use the equation: $R_{total} = \frac{R_1 \times R_2}{R_1 + R_2}$

[2 Ohms × 3 Ohms] / [2 Ohms + 3 Ohms] = 1 1/5 Ohms = 1.2 Ohms

3. Two 1.5 V batteries are connected in parallel. What is the voltage across the batteries?

1.5 V

4. A circuit has two 1.5 V batteries in parallel and one 3 Ω light bulb. What is the current in the circuit?

1.5 V / 3 Ohms = 0.5 Amperes

Use the equation: $I = \frac{V}{R}$

I = amount of current in the circuit (Amps)
V = battery voltage (Volts)
R = resistance (from light bulbs, etc.) in the circuit (Ohms)