Name:_____

Instructions: Students to individually complete this worksheet.

1. A 12W bulb is connected to a 6V power source. Calculate the current drawn by the bulb.

Power (P) = Voltage (V) × Current (I)

2. A battery has a capacity of 7Ah (Ampere hours). How long can it power a 100W bulb before the battery is depleted?

Ampere-hours (Ah) is a measure of the total amount of electric charge passed through a circuit when a current of one ampere flows for one hour.

3. Two electric bulbs marked 25W−220V and 100W−220V are connected in series to a 440V supply. Calculate the current drawn by each of the bulb.

Step 1: Calculate the resistance of each bulb (which power formula to use?)

Step 2: Calculate the total resistance (Series or parallel?)

Step 3: Calculate the total current (using Ohm's Law)

Bonus Problem

Calculate the current drawn by each bulb if they were connected in parallel.