

Warmup: A 9.0 V battery has an internal resistance of 1.2 ohms and is connected to a lamp that has a resistance of 5.7 ohms. What current flows in the circuit, and what is the voltage across the lamp? (Saying that a battery has an internal resistance is like saying that there is a wee resistor in series with the terminal of the battery. This is a common model for a battery that IB wants you to learn. It allows fairly accurately for the phenomenon that as we draw more and more current from the battery, the terminal voltage drops. Anyway – just solve the circuit below, and you will have accounted for all that!)

