(On request -Te'Shia)

Q- A 12 V battery holds 100 J of energy. It discharges all of this energy at a steady rate over the course of 2 hours while powering a flashlight. How much power did the battery deliver to the flashlight? What was the current?

The power delivered is given by the energy delivered per unit time and its unit is Watt = J/s.

Power delivered by the battery will be

$$P = \frac{100}{2*3600} = 1.34 * 10^{-2}\ W = 13.4\ mW$$

The power delivered in an electrical circuit is given by

$$P = V\ I$$

Here V is the voltage and I is the current. Thus the current in the circuit is given by

$$I\ = \frac{P}{V} = \frac{1.34*10^{-2}}{12} = 1.116 * 10^{-3}\ A = 1.116\ mA$$