

Wednesday Reading Assessment: Unit 2, Resistance and Ohm's Law

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March 4, 2020

1 Memory Bank

- $I = \frac{dQ}{dt}$... Definition of current.
- $\Delta V = IR_{\text{tot}}$... Ohm's Law (one version).

2 Current

1. Consider Fig. 1. (a) Indicate on the graph where the current is maximal, and indicate on the graph where the current is approaching a constant. (b) If $\tau = 3$ ms, and $Q_M = 1$ nC, compute the average current.

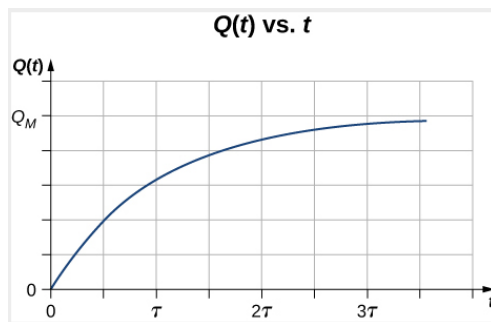


Figure 1: A graph of charge passing through a certain circuit versus time.

3 Ohm's Law

1. Suppose a student collects the data shown in Fig. 2. Deduce the total resistance in the circuit.

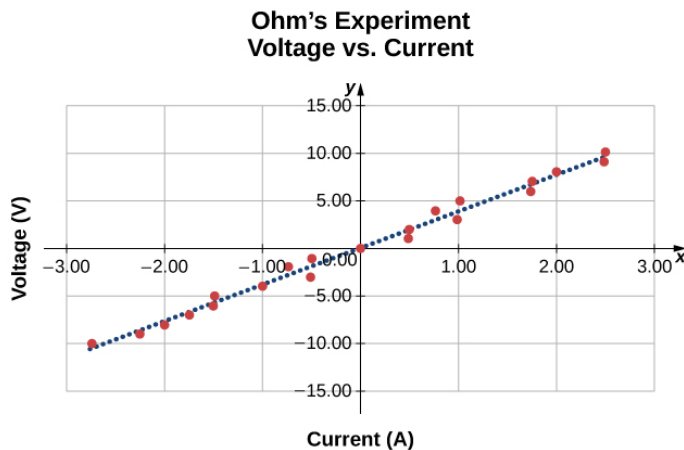


Figure 2: A graph of voltage across a circuit, versus current drawn by the circuit.