Name: _____

Date: _____

Section C D F

The Masters School
Mr. Alex Rawson
Physics

Circuitry I

1. A net charge of 51 mC passes through the cross-sectional area of a wire in 14.0 s.

    a. What is the current in the wire? (Your answer should be between 3 – 6 mA)

    b. How many electrons pass the cross-sectional area in 1.0 min? (Your answer should be between 1×10^{15} - 10^{20} electrons)

2. How much charge passes through a cross-sectional area of a copper wire in 1.0 s if $I = 6.5$ A? (Your answer should be between 5 – 10 C)

3. A nichrome wire with a resistance of 16 Ω is connected across the terminals of a 7.5 V flashlight battery. How much current is in the wire? (Your answer should be between .07 - .7 A)

4. How much current is drawn by a Sharp Aquos 37" HDTV if it has a resistance of 73.8 Ω and is connected across a potential difference of 120 V? (Your answer should be between 1 – 8 A)

5. A potential difference of 3.0 V produces a current of 0.80 A in a piece of copper wire. What is the resistance of the wire? (Your answer should be between 2 – 8 Ω)

6. The operating potential difference of a light bulb is 120 V. The power rating of the bulb is 115 W.

    a. Find the current in the bulb (Your answer should be between .1 – 1 A)

    b. Find the resistance in the bulb. (Your answer should be between 100 – 200 Ω)

7. How much power is needed to operate an Apple *Powerbook* laptop that draws .54 A of current when a potential difference of 120 V is applied across it?