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**PRELAB 2**

**Question 1:**

1. Brown – Black – Brown – Silver
2. Red – Red – Orange – Gold
3. Green – Blue – Red – None

**Question 2:**

* The moving electrons can collide with the ions in the metal. This makes it more difficult for the current to flow and causes resistance.

**Question 3:**

1. R= p\*L /A= 1.59 x 10-8 \* 30 / ((0.001)2 \* 3.14)) /4 = 0.6 Ohm
2. R= p\*L /A= 22 x 10-8 \* 30 / ((0.001)2 \* 3.14)) /4 = 8.4 Ohm
3. R= p\*L /A= 5.6 x 10-8 \* 30 / ((0.001)2 \* 3.14)) /4 = 2.14 Ohm

* **Silver has the most effective electricity conduction and Lead is the least.**

**Question 4:**

In series: Rn=R1+R2+R3=3R1

In parallel: Rn=1/(1/R1+1/R2+1/R3) =R1/3

In combination: Rn=R1+1/(1/R’2+1/R’3) =3R1/2