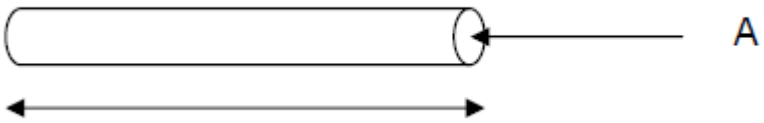
B) Resistance (_____) – Symbol - _____

1) R = _____ (equation)

V - _____ (voltage) between ends of conductor

I - _____ (amperes)

2) The resistance in a **wire** depends on:



a) **Resistivity** - *R* - - metals _____ to electron flow

b) _____ (_____) of the wire

c) _____**)** of the wire

Resistance of a wire = *R*L $_{(meters)}$ / A (m^2)

3) Resistance and Temperature

Metals – When temperature _____, resistance _____

- **Nonmetals** – When temperature _____,, resistance _____
- Superconductor - conductor with _____

Resistance in a wire

1) What is the resistance of **.30 m length of copper wire** that has a **cross-sectional area of 5.0 x 10^{-5} m^2**?

a) How could you alter the dimensions of this wire to reduce the resistance?

To reduce the resistance in a wire you could _____

2) If the length of a wire were **halved**, how would that change the wires resistance?

3) Which material on your reference table would produce a wire that would **allow current to flow the best**?