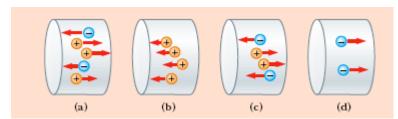
PH 102 Quiz 1: Mostly Current and Resistance

Note: Ω is the symbol for Ohms, or Volts per Ampere.

- 1. An electric current is:
 - O The rate at which charge flows through a surface
 - O The rate at which electric potential changes
 - O The number of charges per unit volume
 - A flow of electrons
- 2. Which of the following correctly states Ohm's law:
 - $\bigcirc \Delta V = I/R$
 - $\bigcirc \Delta V = IR$
 - $\bigcap R = I/\Delta V$
 - $\bigcirc I = \Delta Q/\Delta t$
- 3. An electric current of $1\,\mu\mathrm{A}$ flows through a conductor, which results in a $1.5\,\mathrm{mV}$ potential difference. The resistance of the conductor is:
 - \bigcirc 1.5 Ω
 - $\bigcirc \ 6.6 \times 10^{-4} \, \Omega$
 - $\bigcirc 1.5 \times 10^{-9} \,\Omega$
 - \bigcirc 1500 Ω
- 4. Which of the following does not obey Ohm's law? Check all that apply.

 - ∧ diode
 - O An insulator
 - A capacitor
- 5. Consider the positive and negative charges moving horizontally through the four regions below. Which one has the highest current? Consider the +x direction to be to the right.



- O A
- ОВ
- C○ D