WORKSHEET -1

1) Write true or false

a) Atoms have neutrons, protons, and electrons. _____
b) Protons are positively charged. _____
c) Electrons are negatively charged. _____
d) Electrons are located on the outer edges of atoms…they can be moved. _____
e) A concentration of electrons in an atom creates a net negative charge. _____
f) If electrons are stripped away, the atom becomes positively charged. ____
g) Static electricity is the build up of an electric charge on the surface of an object. ___
h) The charge builds up but does not flow in static electricty. _____
i) Static electricity is potential energy. It does not move. It is stored. _____
j) Static discharge occurs when there is a loss of static electricity due to three possible things: Friction – rubbing; Conduction – direct contact; Induction – through an electrical field (not direct contact).
k) The flow of charges in a circuit is called current. Current (I) is measured in Amperes (A)._
l) Circuit: is a path for the flow of electrons. _
m) Static electricity is stationary or collects on the surface of an object, whereas current electricity is flowing very rapidly through a conductor.__
n) ***Voltage***: Is the amount of electrical pressure in a circuit._____
o) ***Voltage*** is also known as ***ElectroMotive Force (EMF)*** or *Potential Difference.*_____
p) ***Voltage*** may be produced by electromagnetism (generators), chemicals (batteries), light (photocells or solar cells), heat (thermocouples – Nuclear power), pressure (pizioelectricity – electronic drum pads), or friction (static electricity)._____
q) An ***Ampere*** is the number of electrons passing a given point in one second.___
r) The more power a load requires, the larger the amount of ***Current*** flow.____
s) ***Current*** may be direct (DC) or alternating (AC)._____
t) An electric Circuit is a <u>closed loop.</u>
u) Basic Circuits consist of three things: Electron pump (Battery); Device that reduces potential.(User); Conducting connections, (Wires). ____

2) Use given numerical values and get the results

Charge (Coulomb = C)	**Mass (kg)**
e = -1,6. 10^{-19}	9,1.10^{-31}
p = +1,6. 10^{-19}	1,67.10^{-27}

Diameter of H atom = 53pm =53.10^{-12}m
Diameter of a human hair is about 50µm
Diameter of a H2O molecule = 275 picometers
Diameter of a water drop = 1 mm

v) How Many H Atoms Are in a Drop of Water-diameter?
w) How Many H Atoms Are in a human hair-diameter?
x) How Many H Atoms Are in a H2O molecule-diameter?,
y) What is your mass in kg _____
how many electrons do you make with electron mass?