This quiz is take-home and open book, and it is intended that all members of the group contribute to completing it. It is a violation of the Academic Honor Code to sign a quiz that you did not work on. **The quiz is due at the beginning of class on Thursday, September 14.**

Points

(3)   1.   Identify the last name of the scientist responsible for the following experiments or discoveries about the nature of the atom: (0.5 pts. ea.)

   Dalton   proposed the **law of multiple proportions.**

   Thomson   first measured the properties of the electron.

   Roentgen   discovered X-rays.

   Rutherford   bombarded gold foil with alpha particles.

   Millikan   determined the size of the charge on the electron.

   Becquerel   discovered radioactivity.

(4)   2.   Complete the following table of properties of particles: (0.5 pts ea.)

Particle	Symbol	Relative Electrical Charge	Relative mass (amu)
neutron	n	**0**	**1**
beta	ß	**-1**	**1/1837**
electron	e^-	**-1**	1/1837
alpha	á	+2	4
proton	**p or ^{1}H**	+1	1

List names in alphabetical order**. Be sure to staple pages together!**

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(8)   3.   Complete the following table showing the particle composition of different atoms and ions. (0.5 pts ea.)

Atom or Ion	# of protons	# of neutrons	# of electrons
^{9}Be	**4**	**5**	**4**
^{59}Ni	**28**	**31**	**28**
^{80}Br$^-$	**35**	**45**	**36**
^{24}Mg^{2+}	**12**	**12**	**10**
^{14}N	7	7	7
^{112}Cd^{2+}	48	64	46
^{79}Se	34	45	34
^{3}H	1	2	1