

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.**

**List names in alphabetical order, and give social security numbers! Put names on all pages, and staple pages together**

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Points

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

\_\_\_\_\_ proposed the **law of multiple proportions**.

\_\_\_\_\_ first measured the properties of the electron.

\_\_\_\_\_ discovered X-rays.

\_\_\_\_\_ bombarded gold foil with alpha particles.

\_\_\_\_\_ determined the size of the charge on the electron.

\_\_\_\_\_ discovered radioactivity.

- (4) 2. Complete the following table of properties of particles:

Particle	Symbol	Relative Electrical Charge	Relative mass (amu)
	n		
beta	$\beta$		
	$e^-$		1/1837
alpha	$\alpha$	+2	4
proton		+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.

Atom or Ion	# of protons	# of neutrons	# of electrons
${}^9\text{Be}$			
${}^{59}\text{Ni}$			
${}^{80}\text{Br}^-$			
${}^{24}\text{Mg}^{2+}$			
	7	7	7
	48	64	46
	34	45	34
	1	2	1