Unit 3 YLC Chemistry Test Review   Name: _____

Word Bank: Ion, Mass Number, Atomic Number, Proton, Neutron, Electron, Isotope, Nucleus,

1. This is the center of an atom.

2. This is an atom that has a charge, either positive or negative.

3. Protons + Neutrons =

4. Positively charged subatomic particle

5. Has about the same mass as a proton.

6. This is equal to the number of protons.

7. Subatomic particle found outside the nucleus, mass is almost zero.

8. These refer to atoms that have the same number of protons but different numbers of neutrons.

9. In an atom of Magnesium with a total charge of +2, how many electrons would it have?

10. In an atom of Oxygen with a total charge of -2, how many electrons would it have?

11. In an atom of Aluminum with a total charge of +3, how many electrons would it have?

12. In an atom of Chlorine with a total charge of -1, how many electrons would it have?

13. Using a traditional Bohr Model, what is the maximum number of electrons that can be held by the
1st shell-
2nd shell-
3rd shell-

Isotopes- Determine the protons and neutrons for each isotope. Remember that the protons will always be the same as the atomic number, and the addition of your two numbers should equal the mass given in that problem.

C-12 contains __6__ protons and ___6___ neutrons	C-14 contains _____ protons and _____ neutrons
N-15 contains _____ protons and _____ neutrons	Fe-52 contains _____ protons and _____ neutrons
Li-10 _____ protons and _____ neutrons	Al-29 _____ protons and _____ neutrons
Cl-37 _____ protons and _____ neutrons	Mg-24 _____ protons and _____ neutrons
F-20 _____ protons and _____ neutrons	F-21_____ protons and _____ neutrons

19. Calculate the average atomic mass for if its abundance in nature is 80.5% Al-27, 4.3% Al-28, and 15.2% Al-26. (SHOW WORK!)

20. You find 37 atoms of C-14, 26 atoms of C-13, 389 atoms of C-12, and 50 atoms of C-11. What is the average atomic mass of this carbon sample? (Show work)

21. Fill in the table with the appropriate amounts.

Element Symbol	Element Symbol	Atomic Number	Mass Number (Whole Numbers)	# of Protons	# of Neutrons	# of Electrons
Ca						18
		26	56			
-2				8		
	Se					34
				8	7	

22. Complete the Bohr Models for the following and also write our how many valence electrons each has

B   VE-   Al   VE-

C   VE-   He   VE-

Be   VE-   Cl   VE-

23. Please draw a Lewis Dot Structure for the following elements:

Be   **Mg**   **F**   **C**   **O**

Al   **He**   **H**   **P**   **C**

B   **Si**   **Ne**   **S**   **Li**

24. If each of the following turned into an ion, what would its oxidation state be?

Be   Mg   F   C   O

Al   He   H   P   C

B   Si   Ne   S   Li

Moles/Grams

How many moles are present if you have 23.5 grams of CaF$_2$?

How many moles are present if you have 1.98 grams of Hg?

How many grams do you have if you have 4.9 moles of Al$_2$O$_3$?

How many moles are present if you have 16.91 grams of Dinitrogen Trioxide?

What is the electron configuration for the following?

Li-

Ni-

Si-

Ti-

I-