Name: _____   Date: _____

Class/Period: _____

$^{6}_{3}Li$ $^{7}_{3}Li$ $^{8}_{3}Li$

Isotopes, Ions, Average Atomic Mass Review

Part I: Directions: Fill in the blank cells in the table below using the information given.
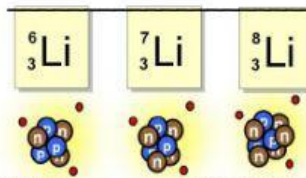
Write formula here for getting mass #!

Isotopic Notation	Isotope Name	Oxidation #	Atomic Number	Number Protons	Number Neutrons	Number Electrons	Mass Number
1. $^{106}_{47}Ag$ +1		+1					
2.	Sulfur-34	-2					
3.		0		10	11		
4.		0				99	155

Part II: Directions: Fill in the blanks below using the information provided.

Ion Chemical Formula	Type of Ion	Type/# of particles lost/gained	# p⁺	# e⁻	# n⁰	Atomic #	Mass #
5.		Gain 1 e⁻	85				219
6.		Loses 2 e⁻			132	88	
7. In⁺³							109
8.			34	36	40		

Part III – Directions: Carefully examine the following information. Use it to answer the questions below.

9. a) A particle has 51 protons and has lost 5 electrons. Write the ion chemical formula.   _____

   b) Type of ion (cation/anion)? _____

10. a) A particle has 16 protons and has gained 2 electrons. Write the ion chemical formula.   _____

   b) Type of ion (cation/anion)? _____

Part IV: Directions: Read the following questions/statements. Fill in the blank provided.

11. A neutral atom changes to an ion when it gains or loses which subatomic particle?   _____

12. Which subatomic particle identifies an element?   _____

13. Which subatomic particle causes one isotope of an atom to change to a different isotope of the same element?   _____

14. What is the term for atoms of the same element with the same number of protons but differing numbers of neutrons? _____

15. Number of **protons** = Number of _____ for a **neutral** atom.

16. What does the atomic number correspond to in an atom? _____

17. What determines the mass number? _____

18. What is a cation and how does it form?

19. What is an anion and how does it form?

Part V: Average Atomic Mass – Directions: Show all work including formulas, units, math, etc.

20. a) Given the data in the table below, calculate the average atomic mass of unknown element X. _____

Isotope	Atomic Mass	Percent Abundance
x-6	6.015 amu	7.5%
x-7	7.016 amu	92.5%

  b) What is the identity of Element X contained in each isotope? _____

21. a) Given the data in the table below, calculate the <u>average atomic mass</u> of unknown element X. _____

Isotope	Atomic Mass	Percent Abundance
x-69	68.926 amu	60.108%
x-71	70.925 amu	39.892%