Atoms Review Worksheet. Name _____
Period _____ Date _____

True-False Classify each of the following statements as always true, **AT**; sometimes true, **ST**; or never true, **NT**.

_____ 1. According to Dalton's atomic theory, atoms are composed of protons, electrons, and neutrons.
_____ 2. Atoms of elements are electrically neutral.
_____ 3. The mass of an electron is equal to the mass of a neutron.
_____ 4. The charge on all protons is the same.
_____ 5. The atomic number of an element is the sum of the protons and electrons in the atom.
_____ 6. The atomic number of an element is the whole number that decreases as you read across each row of the periodic table from left to right.
_____ 7. An atom of nitrogen has 7 protons and 7 neutrons.
_____ 8. Relative atomic masses are measured in amus.
_____ 9. The number of neutrons in the nucleus can be calculated by subtracting the atomic from the mass number.

10. Complete the following table.

Element	Symbol	Atomic Number	Mass Number	Number of Protons	Number of Electrons	Number of neutrons
Carbon			12		6	
	K	19				21
		12				12
Helium		2	4			
		5				6

11.Complete the following table

Element	Symbol	Number of Protons	Number of electrons	Number of neutrons	Atomic Number	Mass Number
		25				53
			11	12		
		35		45		
					39	89
			33			75
	Ac					227

12. Fill in the following Table

Element	Symbol	Atomic Number	Mass Number	Number of neutrons
nitrogen-15				8
Beryllium-9		4		

13. Use the following information to determine the atomic mass of chlorine. Two isotopes are known: chlorine-35 (mass = 35.0 amu) and chlorine-37 (mass = 37.0 amu). The relative abundance's are 75.4% and 24. 6%, respectively.

14. Use the following information to determine the atomic mass of carbon. Two isotopes are known: carbon-12 (mass = 12.00 amu) and carbon-13 (mass = 13.00 amu). Their relative abundance's are 98.9% and 1.10% respectively.

15. Given the relative abundance of the following naturally occurring isotopes of oxygen, calculate the average atomic mass of oxygen:

oxygen- 16: 99.76%
oxygen- 17: 0.037%
oxygen-18: 0.204%

_____ 1.atomic number
_____ 1. periodic table
_____ 2. mass number
_____ 3. group
_____ 4. isotopes
_____ 5. atomic mass unit (amu)
_____ 6. atomic mass
_____ 7. period
_____ 8. electrons
_____10.cathode ray
_____11.protons
_____12.neutrons
_____13.nucleus
_____14.atom
_____15.scanning tunneling electron microscope
_____16.John Dalton
_____17.Democritus

A. atoms that have the same number of protons but different numbers of neutrons
B. weighted average mass of the atoms in a naturally occurring sample of an element
C. equals the number of neutrons plus the number of protons in an atom
D. 1/12 the mass of a carbon-12 atom
E. the number of protons in the nucleus of an atom of an element
F. an arrangement of elements according to similarities in their properties
G. a vertical column of elements in the periodic table
H. a horizontal row of the periodic table
I. stream of electrons produced at the negative electrode of a tube containing a gas at low pressure
J. the central core of an atom, which is composed of protons and neutrons
K. negatively charged subatomic particles
L. subatomic particles with no charge
M. positively charged subatomic particles
N. an instrument used to generate images of individual atoms
O. Greek philosopher who was among the first to suggest the existence of atoms
P. the smallest particle of an element that retains its identity in a chemical reaction
Q. English chemist and schoolteacher who formulated a theory to describe the structure and chemical reactivity of matter in terms of atoms