

Name: Key

Block: _____

Date: _____

Chemistry 11H

Introduction to Atomic Theory

Assignment

1. Fill in the following chart to describe subatomic particles in an atom:

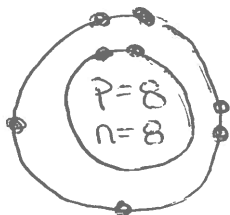
Subatomic Particle	Electric Charge	Location in the atom	Relative Mass
proton	positive	nucleus	1amu
electron	negative	around the nucleus	~ 0 amu
neutron	neutral	nucleus	1amu

2. Complete the following table:

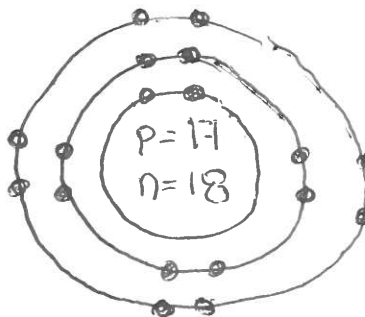
PARTICLE	ATOMIC NUMBER	MASS NUMBER	NUMBER OF PROTONS	NUMBER OF NEUTRONS	NUMBER OF ELECTRONS
${}_{24}^{52}\text{Cr}$	24	52	24	28	24
${}_{86}^{222}\text{Rn}$	86	222	86	136	86
${}_{31}^{70}\text{Ga}$	31	70	31	39	31
${}_{13}^{27}\text{Al}$	13	27	13	14	13
${}_{79}^{197}\text{Au}^{3+}$	79	197	79	118	76
${}_{33}^{75}\text{As}^{3-}$	33	75	33	42	36
${}_{83}^{209}\text{Bi}^{5+}$	83	209	83	126	78
$X^{2-} = {}_{52}^{127}\text{Te}^{2-}$	52	127	52	75	54
$X^{3+} = {}_{45}^{103}\text{Rh}^{3+}$	45	103	45	58	42
$X^{3-} = {}_{33}^{75}\text{As}^{3-}$	33	75	33	42	36

3. Draw Bohr diagrams for the following atoms or ions:

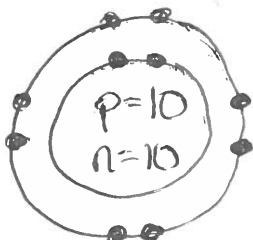
a. O - 16 $e=8$



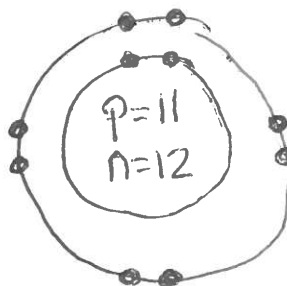
b. Cl^- - 35 $e=18$



c. Ne - 20 $e=10$



d. Na^+ - 23 $e=10$

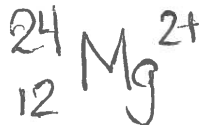


4. Write the chemical symbol for:

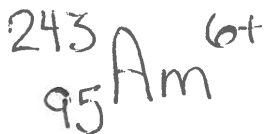
Example: Hydrogen ion:



a. An ion with 12 protons, 10 electrons and 12 neutrons.



b. An ion with 95 protons, 89 electrons and 148 neutrons.



c. An ion with 33 protons, 42 neutrons and 36 electrons.

