Name _____ Period _____

College Prep Chemistry of the Earth

Assignment 5K – Unit 5 Review – The mol and Molar Conversions 20 Points

Determine the atomic mass (*amu*), *and molar mass* (*g/mol*) *for the following isotopes, and the average atomic mass* (*amu and g/mol*) *based on the periodic table*.

Isotope	Fluorine-18	Fluorine-19	Fluorine-20
Atomic Mass (*amu*)			
Molar Mass (*g/mol*)			
Avg Atomic Mass (*g/mol, periodic table*)			

For the following use the given molar mass to perform the following conversions

Convert 69.2g Mg to mol Mg	
Molar Mass Mg	g/mol
mol Mg	

Convert 0.93mol Co to mass Co	
Molar Mass Co	g/mol
mass Co	

Iridium(I)Phosphide [Ir_3P]		
Element	#	Molar Mass
Iridium (Ir)		
Phosporous (P)		
Iridium(I)Phosphide [Ir_3P]		

Tungsten(IV)Carbonate [$W(CO_3)_3$]		
Element	#	Molar Mass
Tungsten (W)		
Carbon (C)		
Oxygen (O)		
Tungsten(IV)Carbonate [$W(CO_3)_3$]		

Convert 79.28g Ir_3P to mol Ir_3P	
Mol Ir_3P	

Convert 1.32mol $W(CO_3)_3$ to mass $W(CO_3)_3$	
Mass $W(CO_3)_3$	

Convert the following measurements between volume and mol, or mol and volume
Molar Volume Conversion $1mol_A = 22.4L_A$

Convert 84.29L $SO_3(g)$ to mol SO_3 (g)	
mol $SO_3(g)$	

Convert 1.74mol $Br_2(g)$ to volume $Br_2(g)$	
volume $Br_2(g)$	

Molarity Equations for Solutions
M = Molarity (*mol/L*) n = Mol (*mol*) V = Liters (*L*)

$$M\ (mol/L) = \frac{n\ (mol)}{V\ (L)} \qquad n\ (mol) = M \bullet V\ (mol/L \bullet L) \qquad V\ (L) = \frac{n\ (mol)}{M\ (mol/L)}$$

Solve the following solution concentration problems

n = 0.78mol V = 1.58L M = _____mol/L	M = 2.40mol/L V = 2.14L n = _____mol
$M = \frac{\quad}{\quad}$ [1]	n =
M =	n =