

Name _____ Period _____

College Prep Chemistry of the Earth

Assignment 6K – Three Stoichiometry (Part I)

20 Points

For the following chemical reactions, complete the chart and perform the following conversions

Chemical Equation	$\text{PbI}_4 + 2\text{Zr}_2\text{CO}_3 \rightarrow \text{Pb}(\text{CO}_3)_2 + 4\text{ZrI}$							
Molar Ratio								

Lead(IV)Iodide [PbI_4]		
Element	#	Molar Mass
Lead (Pb)		
Iodine (I)		
Lead(IV)Iodide [PbI_4]		

Convert 392.4g PbI_4 to mol PbI_4	
mol PbI_4	

Convert _____ mol ZrI to mass ZrI	
mass ZrI	

Zirconium(I) Iodide [ZrI]		
Element	#	Molar Mass
Zirconium (Zr)		
Iodine (I)		
Zirconium(I) Iodide [ZrI]		

Convert _____ mol PbI_4 to mol ZrI	
mol ZrI	

Chemical Equation	$\text{Ni}_2(\text{SO}_4)_3 + 3\text{Mg}(\text{NO}_3)_2 \rightarrow 2\text{Ni}(\text{NO}_3)_3 + 3\text{MgSO}_4$							
Molar Ratio								

Magnesium Nitrate [$\text{Mg}(\text{NO}_3)_2$]		
Element	#	Molar Mass
Magnesium (Mg)		
Nitrate (NO_3)		
Magnesium Nitrate [$\text{Mg}(\text{NO}_3)_2$]		

Convert 482.2g MgSO_4 to mol MgSO_4	
mol MgSO_4	

Convert _____ mol $\text{Mg}(\text{NO}_3)_2$ to mass $\text{Mg}(\text{NO}_3)_2$	
mass $\text{Mg}(\text{NO}_3)_2$	

Magnesium Sulfate [MgSO_4]		
Element	#	Molar Mass
Magnesium (Mg)		
Sulfate (SO_4)		
Magnesium Sulfate [MgSO_4]		

Convert _____ mol MgSO_4 to mol $\text{Mg}(\text{NO}_3)_2$	
mol $\text{Mg}(\text{NO}_3)_2$	