

Name \_\_\_\_\_ Period \_\_\_\_\_

College Prep Chemistry of the Earth

Assignment 6C – Two Step Conversions (Part I)

20 Points

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

Chemical Equation	$3\text{Mg} + 2\text{AlBr}_3 \rightarrow 2\text{Al} + 3\text{MgBr}_2$			
Molar Ratio	mol Mg =	mol AlBr <sub>3</sub> =	mol Al =	mol MgBr <sub>2</sub>

Convert 1.85mol Mg to mol MgBr <sub>2</sub>	
mol MgBr <sub>2</sub>	

Convert 2.72mol AlBr <sub>3</sub> to mol Al	
mol Al	

Aluminum Bromide [AlBr <sub>3</sub> ]		
Element	#	Molar Mass
Aluminum (Al)		
Bromine (Br)		
Aluminum Bromide [AlBr <sub>3</sub> ]		

Magnesium Bromide [MgBr <sub>2</sub> ]		
Element	#	Molar Mass
Magnesium (Mg)		
Bromine (Br)		
Magnesium Bromide [MgBr <sub>2</sub> ]		

Convert 114.0g AlBr <sub>3</sub> to mol AlBr <sub>3</sub>	
mol AlBr <sub>3</sub>	

Convert ____ mol AlBr <sub>3</sub> to mol MgBr <sub>2</sub>	
mol MgBr <sub>2</sub>	

Convert 9.38mol Mg to mol MgBr <sub>2</sub>	
mol MgBr <sub>2</sub>	

Convert ____ mol MgBr <sub>2</sub> to mass MgBr <sub>2</sub>	
mass MgBr <sub>2</sub>	

Chemical Equation	$3\text{CuCO}_3 + 2\text{AlCl}_3 \rightarrow 3\text{CuCl}_2 + \text{Al}_2(\text{CO}_3)_3$			
Molar Ratio	mol $\text{CuCO}_3 =$	mol $\text{AlCl}_3 =$	mol $\text{CuCl}_2 =$	mol $\text{Al}_2(\text{CO}_3)_3$

Convert 0.94mol $\text{CuCO}_3$ to mol $\text{AlCl}_3$	
mol $\text{AlCl}_3$	

Convert 4.28mol $\text{Al}_2(\text{CO}_3)_3$ to mol $\text{CuCl}_2$	
mol $\text{CuCl}_2$	

Copper(II)Carbonate [ $\text{CuCO}_3$ ]		
Element	#	Molar Mass
Copper (Cu)		
Carbon (C)		
Oxygen (O)		
Copper(II)Carbonate [ $\text{CuCO}_3$ ]		

Aluminum Chloride [ $\text{AlCl}_3$ ]		
Element	#	Molar Mass
Aluminum [Al]		
Chlorine [Cl]		
Aluminum Chloride [ $\text{AlCl}_3$ ]		

Convert 114.0g $\text{CuCO}_3$ to mol $\text{CuCO}_3$	
mol $\text{CuCO}_3$	

Convert ____ mol $\text{CuCO}_3$ to mol $\text{Al}_2(\text{CO}_3)_3$	
mol $\text{Al}_2\text{O}_3$	

Convert 3.64mol $\text{CuCl}_2$ to mol $\text{AlCl}_3$	
mol $\text{AlCl}_3$	

Convert ____ mol $\text{AlCl}_3$ to mass $\text{AlCl}_3$	
mass $\text{AlCl}_3$	