

Name _____ Period _____

College Prep Chemistry of the Earth

Assignment 6B – Molar Ratio Conversions

20 Points

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

Chemical Equation	$4\text{Al} + 3\text{O}_2 \rightarrow 2\text{Al}_2\text{O}_3$		
Molar Ratio	mol Al =	mol O ₂ =	mol Al ₂ O ₃

Convert 7.23mol Al to mol Al ₂ O ₃		Convert 5.09mol Al ₂ O ₃ to mol O ₂	
mol Al ₂ O ₃		mol O ₂	

Chemical Equation	$\text{Fe}(\text{BrO}_3)_2 \rightarrow \text{Fe} + 2\text{BrO}_3$		
Molar Ratio	mol Fe(BrO ₃) ₂ =	mol Fe =	mol BrO ₃

Convert 2.70mol Fe(BrO ₃) ₂ to mol BrO ₃		Convert 8.02mol Fe to mol Fe(BrO ₃) ₂	
mol BrO ₃		mol Fe(BrO ₃) ₂	

Convert 0.76mol Fe to mol BrO ₃		Convert 2.49mol BrO ₃ to mol Fe(BrO ₃) ₂	
mol BrO ₃		mol Fe(BrO ₃) ₂	

Chemical Equation	$2\text{Ag} + \text{Ca}(\text{ClO}_3)_2 \rightarrow \text{Ca} + 2\text{AgClO}_3$				
Molar Ratio	mol $\text{Fe}(\text{BrO}_3)_2$	=	mol Fe =	mol BrO_3 =	mol AgClO_3

Convert 1.52mol Ag to mol Ca		Convert 1.74mol AgClO_3 to mol $\text{Ca}(\text{ClO}_3)_2$	
mol Ca		mol $\text{Ca}(\text{ClO}_3)_2$	

Chemical Equation	$3\text{H}_2\text{SO}_4 + 2\text{V}(\text{OH})_3 \rightarrow 6\text{HOH} + \text{V}_2(\text{SO}_4)_3$					
Molar Ratio	mol H_2SO_4	=	mol $\text{V}(\text{OH})_3$	=	mol HOH =	mol $\text{V}_2(\text{SO}_4)_3$

Convert 6.00mol $\text{V}(\text{OH})_3$ to mol HOH		Convert 2.87mol $\text{V}_2(\text{SO}_4)_3$ to mol H_2SO_4	
mol HOH		mol H_2SO_4	