

Name _____ Period _____

College Prep Chemistry of the Earth

Assignment 6H – Triple Stoichiometry Conversions (Part 2)

20 Points

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

Chemical Equation	$6\text{ZnBrO}_3 + \text{Cr}_2(\text{CO}_3)_3 \rightarrow 3\text{Zn}_2\text{CO}_3 + 2\text{Cr}(\text{BrO}_3)_3$			
Molar Ratio	mol ZnBrO ₃ =	mol Cr ₂ (CO ₃) ₃ =	mol Zn ₂ CO ₃ =	mol Cr(BrO ₃) ₃ =

MM ZnBrO ₃	193.29g/mol
MM Cr ₂ (CO ₃) ₃	284.03g/mol

MM Zn ₂ CO ₃	190.79g/mol
MM Cr(BrO ₃) ₃	435.70g/mol

Convert 469.622g ZnBrO ₃ to mol ZnBrO ₃	
mol ZnBrO ₃ =	

Convert mol ZnBrO ₃ to mol Zn ₂ CO ₃	
mol Zn ₂ CO ₃ =	

Convert mol Zn ₂ CO ₃ to mass Zn ₂ CO ₃	
mass Zn ₂ CO ₃ =	

Convert 875.63g Cr ₂ (CO ₃) ₃ to mol Cr ₂ (CO ₃) ₃	
mol Cr ₂ (CO ₃) ₃ =	

Convert mol Cr ₂ (CO ₃) ₃ to mol Cr(BrO ₃) ₃	
mol Cr(BrO ₃) ₃ =	

Convert mol Cr(BrO ₃) ₃ to mass Cr(BrO ₃) ₃	
mass Cr(BrO ₃) ₃ =	

Chemical Equation	$2\text{VPO}_4 + 3\text{Li}_2\text{S}_2\text{O}_3 \rightarrow \text{V}_2(\text{S}_2\text{O}_3)_3 + 2\text{Li}_3\text{PO}_4$
Molar Ratio	$\text{mol VPO}_4 = \text{mol Li}_2\text{S}_2\text{O}_3 = \text{mol V}_2(\text{S}_2\text{O}_3)_3 = \text{mol Li}_3\text{PO}_4$

MM VPO_4	145.91g/mol
MM $\text{Li}_2\text{S}_2\text{O}_3$	126.02g/mol

MM $\text{V}_2(\text{S}_2\text{O}_3)_3$	438.30g/mol
MM Li_3PO_4	115.79g/mol

Convert 469.622g VPO_4 to mol VPO_4	
mol $\text{VPO}_4 =$	

Convert mol VPO_4 to mol $\text{V}_2(\text{S}_2\text{O}_3)_3$	
mol $\text{V}_2(\text{S}_2\text{O}_3)_3 =$	

Convert mol $\text{V}_2(\text{S}_2\text{O}_3)_3$ to mass $\text{V}_2(\text{S}_2\text{O}_3)_3$	
mass $\text{V}_2(\text{S}_2\text{O}_3)_3 =$	

Convert 563.84g $\text{Li}_2\text{S}_2\text{O}_3$ to mol $\text{Li}_2\text{S}_2\text{O}_3$	
mol $\text{Li}_2\text{S}_2\text{O}_3 =$	

Convert mol $\text{Li}_2\text{S}_2\text{O}_3$ to mol Li_3PO_4	
mol $\text{Li}_3\text{PO}_4 =$	

Convert mol Li_3PO_4 to mass Li_3PO_4	
mass $\text{Li}_3\text{PO}_4 =$	