

Name _____ Period _____

College Prep Chemistry of the Earth

Assignment 5K – Double Molar Conversions (Part 2)

20 Points

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

Chemical Equation	<u> </u> Ti(SO ₄) ₂ + <u>2</u> Mg(ClO ₃) ₂ → <u> </u> Ti(ClO ₃) ₄ + <u>2</u> MgSO ₄														
Molar Ratio	1	mol	Ti(SO ₄) ₂	:	2	mol	Mg(ClO ₃) ₂	:	1	mol	Ti(ClO ₃) ₄	:	2	mol	MgSO ₄

MM $\text{Ti}(\text{ClO}_3)_4$	318.67g/mol	MM MgSO_4	120.38g/mol
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Convert 4.59mol $\text{Mg}(\text{ClO}_3)_2$ to mol $\text{Ti}(\text{ClO}_3)_4$				Convert _____ mol $\text{Ti}(\text{ClO}_3)_4$ to mass $\text{Ti}(\text{ClO}_3)_4$			
* 4.59	mol	$\text{Mg}(\text{ClO}_3)_2$		2.30	mol	$\text{Ti}(\text{ClO}_3)_4$	
				318.67	g	$\text{Ti}(\text{ClO}_3)_4$	
mol $\text{Ti}(\text{ClO}_3)_4 =$	2.30	mol	$\text{Ti}(\text{ClO}_3)_4$	mass $\text{Ti}(\text{ClO}_3)_4 =$	732.94	g	$\text{Ti}(\text{ClO}_3)_4$

Convert 3.80g MgSO_4 to mol MgSO_4		Convert _____ mol MgSO_4 to mol $\text{Ti}(\text{SO}_4)_2$	
mol $\text{MgSO}_4 =$		mol $\text{Ti}(\text{SO}_4)_2 =$	

Chemical Equation	$\text{Cr}_3\text{N}_2 + 3\text{Zn}_2\text{SO}_4 \rightarrow 3\text{CrSO}_4 + 2\text{Zn}_3\text{N}$							
Molar Ratio								

MM Cr_3N_2	318.67g/mol		
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Convert 6.29mol Zn_3N to mol Cr_3N_2		Convert _____ mol Cr_3N_2 to mass Cr_3N_2	
mol $\text{Cr}_3\text{N}_2 =$		mass $\text{Cr}_3\text{N}_2 =$	