

Name _____ Period _____

College Prep Chemistry of the Earth

Assignment 6J – Double Molar Conversions (Part 2)

20 Points

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

Chemical Equation	$\text{Ti}(\text{CO}_3)_2 + 2\text{Mg}(\text{ClO}_3)_2 \rightarrow \text{Ti}(\text{ClO}_3)_4 + 2\text{MgCO}_3$							
Molar Ratio								

Titanium Carbonate $[\text{Ti}(\text{CO}_3)_2]$		
Element	#	Molar Mass
Titanium (Ti)		
Carbonate (CO_3)		
Titanium Carbonate $[\text{Ti}(\text{CO}_3)_2]$		

Magnesium Carbonate $[\text{MgCO}_3]$		
Element	#	Molar Mass
Magnesium (Mg)		
Carbonate (CO_3)		
Magnesium Carbonate $[\text{MgCO}_3]$		

Convert 286.3g $\text{Ti}(\text{CO}_3)_2$ to mol $\text{Ti}(\text{CO}_3)_2$	
mol $\text{Ti}(\text{CO}_3)_2$	

Convert _____ mol $\text{Ti}(\text{CO}_3)_2$ to mol MgCO_3	
mol MgCO_3	

Chemical Equation	$\text{Cr}_3\text{N}_2 + 3\text{Zn}_2\text{CO}_3 \rightarrow 3\text{CrCO}_3 + 2\text{Zn}_3\text{N}$							
Molar Ratio								

Zinc(I) Carbonate $[\text{Zn}_2\text{CO}_3]$		
Element	#	Molar Mass
Zinc (Zn)		
Carbonate (CO_3)		
Zinc(I) Carbonate $[\text{Zn}_2\text{CO}_3]$		

Zinc(I) Nitride $[\text{Zn}_3\text{N}]$		
Element	#	Molar Mass
Zinc (Zn)		
Nitrogen (N)		
Zinc(I) Nitride $[\text{Zn}_3\text{N}]$		

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Convert 7.43mol Zn ₂ CO ₃ to mol Zn ₃ N		Convert ____ mol Zn ₃ N to mass Zn ₃ N	
mol Zn ₃ N		mass Zn ₃ N	

Chemical Equation	$2\text{H}_3\text{PO}_4 + \text{W}(\text{OH})_6 \rightarrow 6\text{HOH} + \text{W}(\text{PO}_4)_2$							
Molar Ratio								

Hydrogen Phosphate [H ₃ PO ₄]			Tungsten(VI)Hydroxide [W(OH) ₆]		
Element	#	Molar Mass	Element	#	Molar Mass
Hydrogen (H)			Tungsten (W)		
Phosphate (PO ₄)			Hydroxide (OH)		
Hydrogen Phosphate [H ₃ PO ₄]			Tungsten(VI)Hydroxide W(OH) ₆		

Convert 802.4g W(OH) ₆ to mol W(OH) ₆		Convert ____ mol W(OH) ₆ to mol H ₃ PO ₄	
mol W(OH) ₆		mol H ₃ PO ₄	