Name _____ Period _____

College Prep Chemistry of the Earth

Assignment 6G – Triple Stoichiometry Conversions (*Part 1*) 20 Points

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

Chemical Equation	$2FeBr_2 + TiO_2 \rightarrow 2FeO + TiBr_4$							
Molar Ratio	2	mol $FeBr_2$	1	mol TiO_2	2	mol FeO	1	mol $TiBr_4$

MM $FeBr_2$	215.65g/mol
MM TiO_2	79.87g/mol

MM FeO	71.85g/mol
MM $TiBr_4$	367.47g/mol

1 Convert 321.4g $FeBr_2$ to mol $FeBr_2$

321.4 g $FeBr_2$	1 mol $FeBr_2$
	215.65 g $FeBr_2$
mol $FeBr_2$ =	1.49 mol $FeBr_2$

2 Convert mol $FeBr_2$ to mol $TiBr_4$

1.49 mol $FeBr_2$	1 mol $TiBr_4$
	2 mol $FeBr_2$
mol $TiBr_4$ =	0.75 mol $TiBr_4$

3 Convert mol $TiBr_4$ to mass $TiBr_4$ → g (Molar Mass)

0.75 mol $TiBr_4$	367.47 g $TiBr_4$
	1 mol $TiBr_4$
~~mol~~ mass $TiBr_4$ =	275.60 g $TiBr_4$

Convert 110.4g TiO_2 to mol TiO_2	
mol TiO_2 =	

Convert mol TiO_2 to mol FeO	
mol FeO =	

Convert mol FeO to mass FeO	
~~mol~~ mass FeO =	

Chemical Equation	$2Cu_2O_3 + 3PbCl_4 \rightarrow 4CuCl_3 + 3PbO_2$							
Molar Ratio								

MM Cu_2O_3	175.10g/mol
MM $PbCl_4$	349.00g/mol

MM $CuCl_3$	169.90g/mol
MM PbO_2	239.20g/mol

Convert 663.29g Cu_2O_3 to mol Cu_2O_3	
mol Cu_2O_3 =	

Convert mol Cu_2O_3 to mol $CuCl_3$	
mol $CuCl_3$ =	

Convert mol $CuCl_3$ to mass $CuCl_3$	
~~mol~~ Mass $CuCl_3$ =	

Convert 245.81g PbO_2 to mol PbO_2	
mol PbO_2 =	

Convert mol PbO_2 to mol $PbCl_4$	
mol $PbCl_4$ =	

Convert mol $PbCl_4$ to mass $PbCl_4$	
~~mol~~ Mass $PbCl_4$ =	