Name _____ Period _____

College Prep Chemistry of the Earth

Assignment 4T – Unit 3 Review – Chemical Reactions 20 Points

Chemical Reaction Balancing Ratio Chart

Atom Ratio	1:1	2:2	1:2	1:3	1:4	1:6	2:4	2:3	4:3	2:6	3:6
Coefficients	1-1	1-1	2-1	3-1	4-1	6-1	2-1	3-2	3-4	3-1	2-1

Atom Ratio	3:3	4:4	2:1	3:1	4:1	6:1	4:2	3:2	3:4	6:2	6:3
Coefficients	1-1	1-1	1-2	1-3	1-4	1-6	1-2	2-3	4-3	1-3	1-2

Complete the following reactions based on the in class notes and presentations.

Reaction	$Fe + N_2 \rightarrow$ $Fe = +2$			Reaction	$Ti + Na_2CO_3 \rightarrow$ + $Ti = +4$					
A + B → AB				A + BC → AC + B						
A		B		A		BC		B		

Formula	A	B
Ion Charge		
Cross Method		
AB		

Formula	A	C
Ion Charge		
Cross Method		
AC		

Reaction	$MnF_3 \rightarrow$ +				
AB → A + B					
AB		A		B	

Diatomic Elements
H_2, N_2, O_2 F_2, Cl_2, Br_2, I_2

Balance the following chemical reactions. Show complete balancing chart include cross outs

_____ Cr + _____ F_2

→ _____ CrF_3

Reactants		Products	
Cr		Cr	
F		F	

_____ Ru + _____ $W(PO_4)_2$

→ _____ W + _____ $Ru_3(PO_4)_2$

Reactants		Products	
Ru		Ru	
W		W	
PO_4		PO_4	

For the following reactions, write the products of each reaction following the template provided. Balance each reaction. Show work for ionic compound and cross out for balancing.

Reaction	_____ V + _____ Zn_2SO_4 → _____ + _____ V = +3 Zn = +1
General Form	A + BC → AC + B

Formula	A	C
Ion Charge		
Cross Method		
AC		

Reactants		Products	
V		V	
Zn		Zn	
SO_4		SO_4	

Reaction	____ $Sr(CN)_2$ + ____ Ag_2CrO_4 → ____ + ____ Ag = +1
General Form	AB + CD → AD + CB

Formula	A	D	C	B
Ion Charge				
Cross Method				
AD CB				

Reactants		Products	
Sr		Sr	
CN		CN	
Ag		Ag	
CrO_4		CrO_4	