

Name _____ Period _____

College Prep Chemistry of the Earth

Assignment 4F – Writing Combination Reactions

20 Points

For the following reactions, write the products of each reaction following the template provided.
Show work for ionic compound

Reaction	Na + O ₂ → _____			
A	+	B	→	AB
	+		→	

Formula	A	B
Elements		
Ion Charge		
Cross Method		
AB		

Reaction	Al + F ₂ → _____			
A	+	B	→	AB
Al	+	F ₂	→	AlF ₃

Formula	A	B
Elements	Al	F
Ion Charge	(13) +3	(17) -1
Cross Method	Al F (1) (3)	
AB	AlF ₃	

single atom or ion

single element
X₂ → X

Reaction	Cr ³⁺ + N ₂ → _____			
A	+	B	→	AB
Cr ³⁺	+	N ₂	→	CrN

Formula	A	B
Elements	Cr	N
Ion Charge	+3	-3
Cross Method	Cr N +3 -3	
AB	Cr ₃ N ₃ CrN	

single atom or ion
group 15

Reaction	Fe ²⁺ + P → _____			
A	+	B	→	AB
	+		→	

Formula	A	B
Elements		
Ion Charge		
Cross Method		
AB		

Reduce 2:4 → 1:2 2:2 → 1:1 4:2 → 2:1 3:3 → 1:1 6:3 → 2:1

Reaction	$\text{Ti}^{4+} + \text{I}_2 \rightarrow \underline{\hspace{2cm}}$			
A	+	B	$\rightarrow$	AB
	+		$\rightarrow$	

Formula	A	B
Elements		
Ion Charge		
Cross Method		
AB		

Reaction	$\text{W}^{6+} + \text{O}_2 \rightarrow \underline{\hspace{2cm}}$			
A	+	B	$\rightarrow$	AB
W^{6+}	+	O_2	$\rightarrow$	WO_3

Formula	A	B
Elements	W	O
Ion Charge	+6	-2
Cross Method	W	O
AB	W_2O_3	

$\leftarrow \text{O not O}_2$
 (16)
 $2:2 \rightarrow 1:1$
 $3:3 \rightarrow 1:1$

 $2:4 \rightarrow 1:2$
 $2:6 \rightarrow 1:3$
 $3:6 \rightarrow 1:2$

Reaction	$\text{V}^{3+} + \text{S} \rightarrow \underline{\hspace{2cm}}$			
A	+	B	$\rightarrow$	AB
	+		$\rightarrow$	

Formula	A	B
Elements		
Ion Charge		
Cross Method		
AB		

Reaction	$\text{Pb}^{4+} + \text{N}_2 \rightarrow \underline{\hspace{2cm}}$			
A	+	B	$\rightarrow$	AB
	+		$\rightarrow$	

Formula	A	B
Elements		
Ion Charge		
Cross Method		
AB		