

Name _____ Period _____

College Prep Chemistry of the Earth

Assignment 4J – Writing Single Replacement Reactions w/ Polyatomic Ions

20 Points

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

Reaction	$\text{Ni}^{3+} + \text{HBr} \rightarrow \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$					
A	+	BC	$\rightarrow$	AC	+	B
	+		$\rightarrow$		+	

	A	C
Element or Ion		

Ion Charge		
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Cross Method		
Final Formula		

Reaction	$\text{Ba} + \text{H}_3\text{N} \rightarrow \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$					
A	+	BC	$\rightarrow$	AC	+	B
	+		$\rightarrow$		+	

	A	C
Element or Ion		

Ion Charge		
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Cross Method		
Final Formula		

Reaction	$\text{Na} + \text{H}_2\text{SO}_4 \rightarrow \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$					
A	+	BC	$\rightarrow$	AC	+	B
	+		$\rightarrow$		+	

	A	C
Element or Ion		

Ion Charge		
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Cross Method		
Final Formula		

Reaction	$\text{Fe}^{2+} + \text{H}_3\text{PO}_4 \rightarrow \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$ $(\text{Fe}) (\text{H}) (\text{PO}_4)$					
A	+	BC	$\rightarrow$	AC	+	B
Fe	+	H ₃ PO ₄	$\rightarrow$	Fe ₃ (PO ₄) ₂	+	H ₂

	A	C
Element or Ion	Fe	PO ₄

Ion Charge	+2	-3
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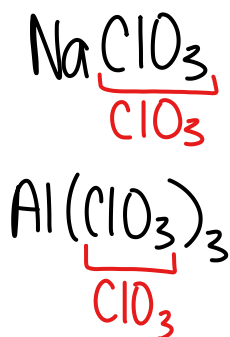
Cross Method	Fe PO₄	
Final Formula	Fe ₃ (PO ₄) ₂	

Reaction	$\text{Ca} + \text{ZnNO}_3 \rightarrow \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$					
A	+	BC	$\rightarrow$	AC	+	B
	+		$\rightarrow$		+	

	A	C
Element or Ion		

Ion Charge		
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Cross Method		
Final Formula		



Reaction	$\text{Co}^{3+} + \text{Ag}_2\text{CrO}_4 \rightarrow \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$					
A	+	BC	$\rightarrow$	AC	+	B
	+		$\rightarrow$		+	

	A	C
Element or Ion		

Ion Charge		
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Cross Method		
Final Formula		

Reaction	$\text{Li} + \text{Cr}(\text{ClO}_3)_2 \rightarrow \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$					
A	+	BC	$\rightarrow$	AC	+	B
Li	+	$\text{Cr}(\text{ClO}_3)_2$	$\rightarrow$	LiClO_3	+	Cr

	A	C
Element or Ion	Li	ClO_3

Ion Charge	+1	-1
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Cross Method		
Final Formula	$\text{Li}(\text{ClO}_3)$ $\text{Li}_1(\text{ClO}_3)_1$	

chart $\text{ClO}_3 = -1$



Reaction	$\text{Sn}^{4+} + \text{PtS}_2\text{O}_3 \rightarrow \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$					
A	+	BC	$\rightarrow$	AC	+	B
	+		$\rightarrow$		+	

	A	C
Element or Ion		

Ion Charge		
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Cross Method		
Final Formula		