

Name _____ Period _____

College Prep Chemistry of the Earth

Assignment 4M – Writing Double 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	$\text{LiBr} + \text{Ca}(\text{NO}_3)_2 \rightarrow \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$	Reaction	$\text{Al}(\text{OH})_3 + \text{K}_2\text{S} \rightarrow \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$
AB + CD → AD + CB		AB + CD → AD + CB	
AB		CD	
AB		CD	

Formula	A	D	C	B
Ion Charge				
Cross Method				
AD CB				

Formula	A	D	C	B
Ion Charge	+3	-2	+1	-1
Cross Method	Al	S	K	(OH)
AD CB	Al ₂ S ₃		KOH	



Reaction	$\text{SeCl}_2 + \text{Li}_3\text{PO}_4 \rightarrow \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$	Reaction	$\text{Mg}_3\text{N}_2 + \text{K}_2\text{Cr}_2\text{O}_7 \rightarrow \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$
AB + CD → AD + CB		AB + CD → AD + CB	
AB		CD	
AB		CD	

Formula	A	D	C	B
Ion Charge	+2	-3	+1	-1
Cross Method	Se	(PO ₄)	Li	Cl
AD CB	Se ₂ (PO ₄) ₃		LiCl	

Formula	A	D	C	B
Ion Charge				
Cross Method				
AD CB				



$\begin{array}{c} A|B \\ \hline Ti|CO_3 \\ \hline C|D \\ \hline Al|BrO_3 \\ \hline Al|BrO_3 \end{array}$

Reaction	$Ti(CO_3)_2 + Al(BrO_3)_3 \rightarrow _ + _$ $Ti = +4$	
$AB + CD \rightarrow AD + CB$		
AB	$Ti(CO_3)_2$	CD $Al(BrO_3)_3$

Reaction	$Fe(CN)_2 + V_2(S_2O_3)_3 \rightarrow _ + _$ $Fe = +2 \quad V = +3$	
$AB + CD \rightarrow AD + CB$		
AB		CD

Formula	A	D	C	B
Ion Charge	+4	-1	+3	-2
Cross Method	$Ti(BrO_3)$		$Al(CO_3)$	
AD CB	$Ti(BrO_3)_4$		$Al_2(CO_3)_3$	

Formula	A	D	C	B
Ion Charge				
Cross Method				
AD CB				

Reaction	$NiC_2O_4 + Zr_2SO_4 \rightarrow _ + _$ $Ni = +2 \quad Zr = +1$	
$AB + CD \rightarrow AD + CB$		
AB		CD

Reaction	$Sn(NO_3)_4 + Mo(SCN)_2 \rightarrow _ + _$ $Sn = +4 \quad Mo = +2$	
$AB + CD \rightarrow AD + CB$		
AB		CD

Formula	A	D	C	B
Ion Charge				
Cross Method				
AD CB				

Formula	A	D	C	B
Ion Charge				
Cross Method				
AD CB				