

Name _____ Period _____

CP Chemistry of the Earth

Assignment 4O – Combination/Decomp/Single Replacement Reaction Review

20 Points

Complete the following combination chemical reactions, including showing the cross method for formulas. No Work = No Credit!

Reaction	$\text{Cu} + \text{Br}_2 \rightarrow$ [Cu = +3]				
General Form	A	+	B	$\rightarrow$	AB
Reaction	Cu	+	Br	$\rightarrow$	CuBr ₃

charge of metal []

Answer

From problem

* Not Br₂ (element symbol only!)

Top Problem

Bottom Problem

A	B	AB	A	B	AB
Element Poly Ion	Element Poly Ion	Cross Method (work)	Element Poly Ion	Element Poly Ion	Cross Method
Cu	Br	+3 -1 Cu Br			
Charge	Charge (group 17)		Charge	Charge	
+3	-1	CuBr ₃			

at just element symbol or ion. given OR Table

min work!

(Don't Forget Arrows!)

write answer!

Reaction	$\text{Pb} + \text{N}_2 \rightarrow$ [Pb = +4]				
General Form	A	+	B	$\rightarrow$	AB
Reaction		+		$\rightarrow$	

Complete the following decomposition chemical reaction. Remember diatomic elements

Reaction	$\text{H}_3\text{N} \rightarrow$				
General Form	AB	$\rightarrow$	A	+	B
Reaction	H ₃ N	$\rightarrow$	H ₂	+	N ₂

H₂ | N
A | B

(Write from problem)

check if diatomic

Diatomic Element

H₂, N₂, O₂,
F₂, Cl₂, Br₂, I₂

Complete the following single replacement chemical reactions, including showing the cross method and all work. No Work = No Credit!

Reaction	$\overset{A}{\text{Mg}} + \overset{BC}{\text{SnS}_2} \rightarrow$ <i>element compound</i> <i>If charge needed</i> <i>(<u>Sn</u> + <u>4</u>)</i>						
General Form	A	+	BC	→	AC	+	B
Reaction	Mg	+	SnS ₂	→	MgS	+	Sn

A	C	AC
Element Poly Ion	Element Poly Ion	Cross Method
Mg	S	$\begin{array}{cc} +2 & -2 \\ \text{Mg} & \text{S} \end{array}$ Mg_2S_2 MgS
Charge (group 2)	Charge (group 16)	
+2	-2	

Reduce

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

min work

Reduce

Final formula

Reaction	V + CaCO₃ → [V = +3]						
General Form	A	+	BC	→	AC	+	B
Reaction		+		→		+	

A	C	AC
Element Poly Ion	Element Poly Ion	Cross Method
Charge	Charge	

exactly as appears in equation!

element symbol or ion only!