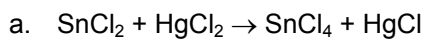


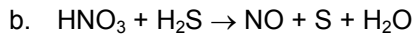
Unit 6: Redox Reactions and Electrochemistry

Practice Set 3: Balancing Redox Reactions

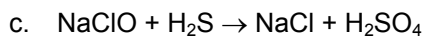
1. Balance the following redox reactions using the oxidation number method.

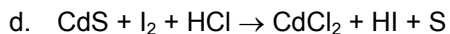


initial	final	change	Coefficient	Total e^-
	→		×	=
	→		×	=



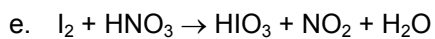
initial	final	change	Coefficient	Total e^-
	→		×	=
	→		×	=



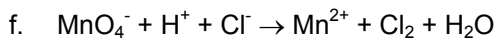


Because one of the atoms undergoing oxidation or reduction has a subscript (I_2) we will account for the number of atoms of each element when preparing our summary chart:

initial	final	change	no. atoms	No. e^-	Coefficient	Total e^-
I	→		× 2 (in I_2)		×	=
S	→			=	×	=

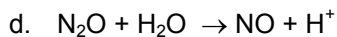
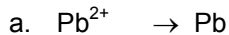


initial	final	change	no. atoms	No. e^-	Coefficient	Total e^-
	→				×	=
	→			=	×	=

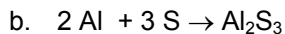
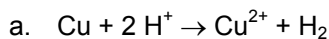


initial	final	change	no. atoms	No. e^-	Coefficient	Total e^-
	→				×	=
	→				×	=

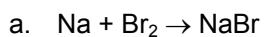
2. Balance the following half-reactions for both atoms and electrons by adding the appropriate number of electrons to the correct side of the equation. Also identify each as either an oxidation or reduction.



3. Break each equation into two half-reactions. Identify each half-reaction as oxidation or reduction.



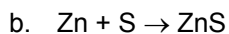
4. Balance the following equations using the half-reaction method.



Step 1	Step 2	Step 3
Write the two balanced half-reactions, removing any spectator ions:	Balance for electrons	Add the half-reactions, replacing any spectator ions that were removed and/or recombining compounds

added together: _____

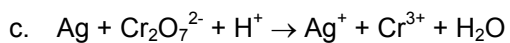
reform compound: _____



Step 1	Step 2	Step 3
Write the two balanced half-reactions, removing any spectator ions:	Balance for electrons	Add the half-reactions, replacing any spectator ions that were removed and/or recombining compounds

added together: _____

reform compound: _____



For each half-reaction, remember to balance for atoms first, then add electrons to balance for charge.