

Name _____

H. Chem, Period _____

Redox Worksheet

1. Give the oxidation number of each atom or atoms in the ion.

a. sulfate

d. Fe^{3+}

g. ammonium

b. Sn

e. Sn^{4+}

c. S^{2-}

f. nitrate

2. Calculate the oxidation number of ***chromium*** only in each of the following.

a. Cr_2O_3

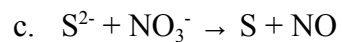
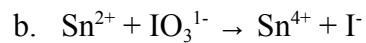
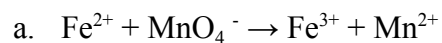
c. CrSO_4

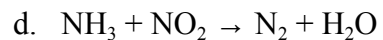
e. dichromate

b. $\text{Na}_2\text{Cr}_2\text{O}_7$

d. chromate

3. Write half-reactions for the oxidation and reduction process (label) for each of the following individual elements that are oxidized and reduced.





Determine what chemical is oxidized and what is reduced in each reaction. Put all oxidation numbers on the atom in the reaction.

Reaction	Oxidized	Reduced	Oxidizing Agent	Reducing Agent
1. $2\text{Sr} + \text{O}_2 \rightarrow 2\text{SrO}$				
2. $2\text{Li} + \text{S} \rightarrow \text{Li}_2\text{S}$				
3. $2\text{Cs} + \text{Br}_2 \rightarrow 2\text{CsBr}$				
4. $3\text{Mg} + \text{N}_2 \rightarrow \text{Mg}_3\text{N}_2$				
5. $4\text{Fe} + 3\text{O}_2 \rightarrow 2\text{Fe}_2\text{O}_3$				
6. $\text{Cl}_2 + 2\text{NaBr} \rightarrow 2\text{NaCl} + \text{Br}_2$				
7. $\text{Si} + 2\text{F}_2 \rightarrow \text{SiF}_4$				
8. $2\text{Ca} + \text{O}_2 \rightarrow 2\text{CaO}$				
9. $\text{Mg} + 2\text{HCl} \rightarrow \text{MgCl}_2 + \text{H}_2$				
10. $2\text{Na} + 2\text{H}_2\text{O} \rightarrow 2\text{NaOH} + \text{H}_2$				
11. $2\text{KMnO}_4 + 5\text{KNO}_2 + 3\text{H}_2\text{SO}_4 \rightarrow 2\text{MnSO}_4 + 3\text{H}_2\text{O} + 5\text{KNO}_3 + \text{K}_2\text{SO}_4$				

12. $3\text{H}_2\text{C}_2\text{O}_4 + 2\text{K}_2\text{MnO}_4 \rightarrow 6\text{CO}_2 + 2\text{K}_2\text{O} + \text{Mn}_2\text{O}_3 + 3\text{H}_2\text{O}$				
13. $4\text{H}_2\text{C}_2\text{O}_4 + 2\text{KMnO}_4 \rightarrow 8\text{CO}_2 + \text{K}_2\text{O} + \text{Mn}_2\text{O}_3 + 4\text{H}_2\text{O}$				