

Name _____

Period _____

2nd Semester Final Review - Oxidation Reduction

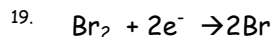
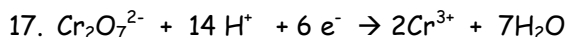
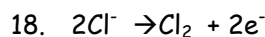
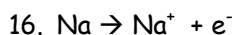
1. Define oxidation
2. Define reduction
3. What is an oxidizing agent
4. What is a reducing agent?
5. What is transferred in a redox reaction?

Assign oxidation numbers to each element in the following compounds.

	Formula		
6.	H ₂ O	H	O
7.	H ₂	H	
8.	NO	N	O
9.	NO ₂	N	O
10.	NO ₃ ⁻	N	O

	Formula		
11.	MgCl ₂	Mg	Cl
12.	CaO	Ca	O
13.	PO ₄ ³⁻	P	O
14.	SO ₄ ²⁻	S	O
15.	KCl	K	Cl

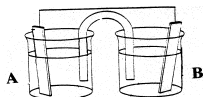
Identify each of the following reactions as oxidation or reduction reactions.



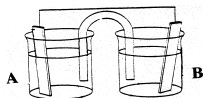
In the following equations, write the oxidation and reduction half reactions.

	Reaction	Oxidation half rxn	Reduction half rxn
20.	$2\text{H}^+(\text{aq}) + \text{Zn}(\text{s}) \rightarrow \text{Zn}^{2+}(\text{aq}) + \text{H}_2(\text{g})$		
21.	$2\text{AgNO}_3(\text{aq}) + \text{Cu}(\text{s}) \rightarrow \text{Cu}(\text{NO}_3)_2(\text{aq}) + \text{Ag}(\text{s})$		
22.	$\text{KMnO}_4 + \text{HCl} \rightarrow \text{KCl} + \text{MnCl}_2 + \text{H}_2\text{O} + \text{Cl}_2$		

20. Write the anode, cathode and overall reaction when a Tin electrode is put in a solution of SnCl₂ in beaker A and a Strip of Iron electrode is placed into a solution of FeCl₂ in beaker B. The standard reduction potential of Sn²⁺ is -.14 volts and the standard reduction potential of Fe²⁺ is -0.44 volts



21. Write the anode, cathode and overall reaction when a Chromium electrode is placed in a solution of CrCl₃ in beaker A and a lead electrode is placed in a solution of Pb(NO₃)₂ in beaker B. The standard reduction potential of Pb²⁺ is -.13 volts and the standard reduction potential of Cr³⁺ is -0.473 volts.



22. Explain the purpose of the salt bridge and which ions flow in which direction across it.