

Equations Review

Name: _____

Part 1: Supply the correct coefficients to balance the following equations (assume all formulas are correct). Then classify each reaction as either synthesis, decomposition, single replacement, double replacement or combustion.

	<u>Type of Reaction</u>
1) ___ NH ₃ (g) + ___ HCl (g) ---> ___ NH ₄ Cl (l)	synthesis
2) ___ Pb(NO ₃) ₂ (aq) + ___ K ₂ CrO ₄ (aq) ---> ___ PbCrO ₄ (s) + ___ KNO ₃ (aq)	double replacement
3) ___ Cl ₂ (g) + ___ KI (aq) ---> ___ KCl (aq) + ___ I ₂ (s)	single replacement
4) ___ C ₃ H ₆ (g) + ___ O ₂ (g) ---> ___ CO ₂ (g) + ___ H ₂ O (g)	combustion
5) ___ Al(OH) ₃ (s) ---> ___ Al ₂ O ₃ (s) + ___ H ₂ O (l)	decomposition
6) ___ Li (s) + ___ O ₂ (g) ---> ___ Li ₂ O (s)	synthesis
7) ___ HCl (aq) + ___ Fe ₂ O ₃ (s) ---> ___ FeCl ₃ (aq) + ___ H ₂ O (l)	double replacement
8) ___ MgCO ₃ (s) ---> ___ MgO (s) + ___ CO ₂ (g)	decomposition

Part 2: Write the correct formulas for all reactants and products, then supply the necessary coefficients to balance the equations. Then classify each equation according to its reaction type.

- 1) Aqueous calcium iodide is mixed with aqueous mercury (II) nitrate to produce solid mercury (II) iodide and aqueous calcium nitrate.



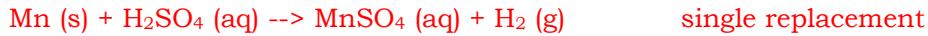
- 2) Aqueous hydrogen peroxide decomposes to form liquid water and oxygen gas.



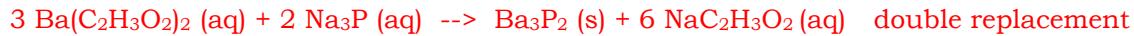
- 3) Solid aluminum mixed with chlorine gas produces solid aluminum chloride.



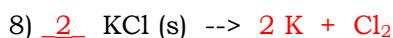
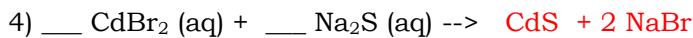
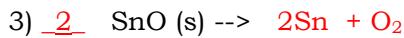
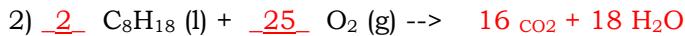
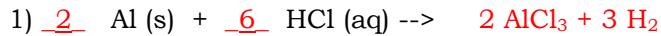
- 4) Manganese metal reacts with aqueous sulfuric acid (H₂SO₄) to produce aqueous manganese (II) sulfate and hydrogen gas.



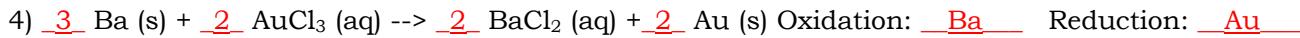
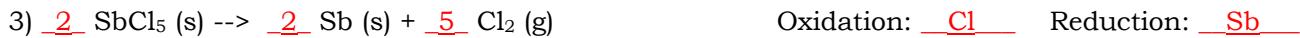
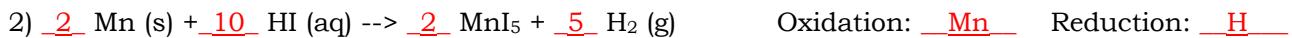
- 5) Aqueous barium acetate reacts with aqueous sodium phosphide to produce solid barium phosphide and aqueous sodium acetate.



Part 3: Given the reactants, predict the products and balance the equation:



Part 4: In the following reactions, balance the reaction and determine what element undergoes oxidation and what element undergoes reduction:



Part 5: Using the activity series, determine whether the reaction will occur or not. For each reaction, predict the products and balance. If no reaction occurs, write NR.

