

Naming and Balancing Review

Friday, October 20, 2017 6:52 AM

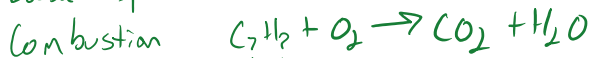
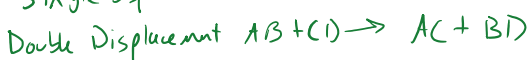
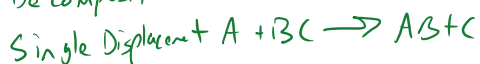
Chemical Reactions and Compounds SKILLS REVIEW

D What Law is the reason you have to balance chemical reactions? Law of conservation of matter

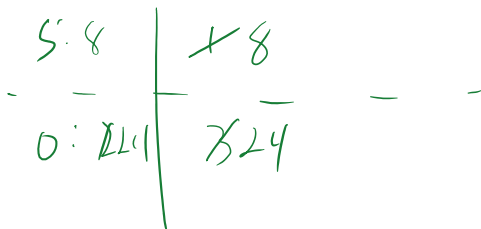
-Explain HOW you go about balancing reactions.

- ① Write out all elements (leave polyatomic ions together if possible)
- ② Count out how many of each in the reactants + products
- ③ Balance by adding coefficients in front of compounds. Leave Oxygen for last
- ④ Re count the atoms every time you add a coefficient

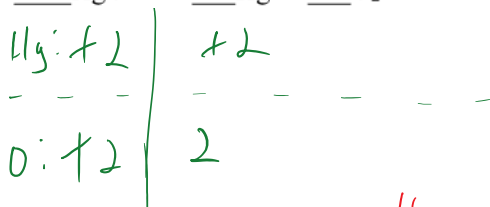
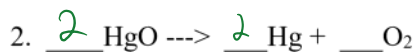
-What are the types of reactions? AND how do you recognize each one?



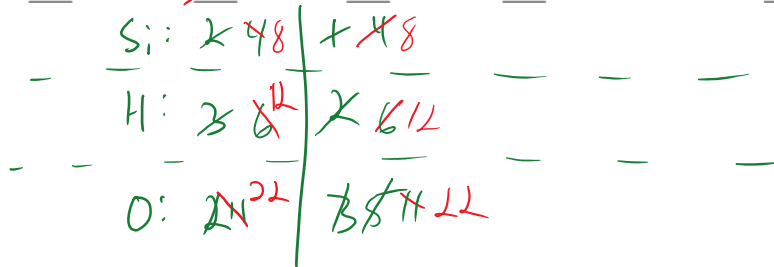
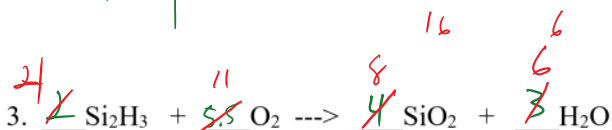
For each reaction: Identify the type of reaction and balance it



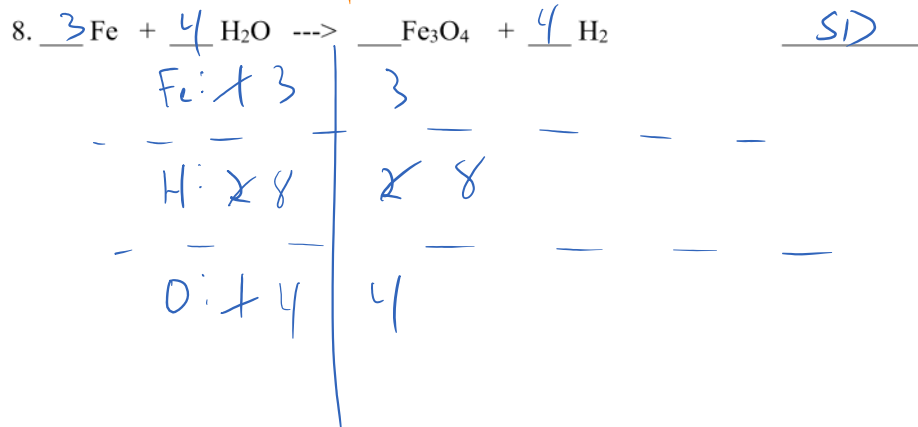
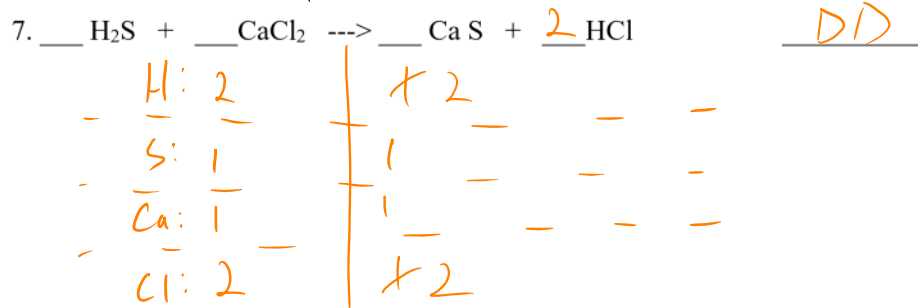
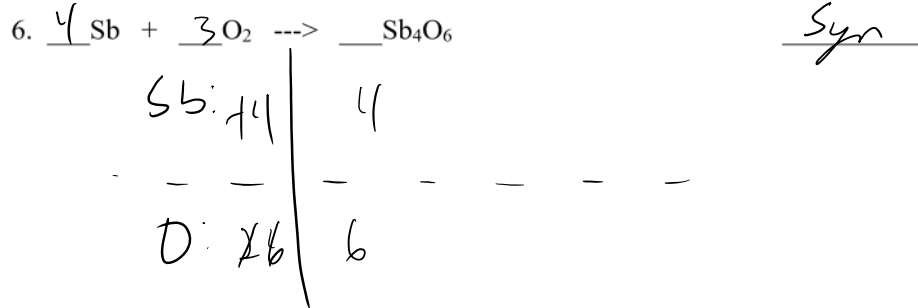
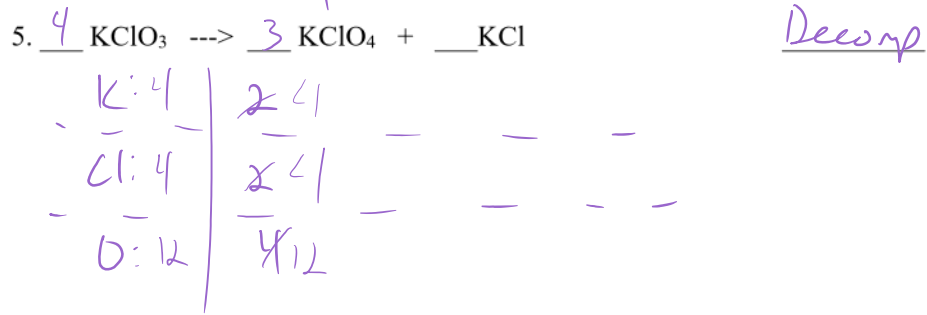
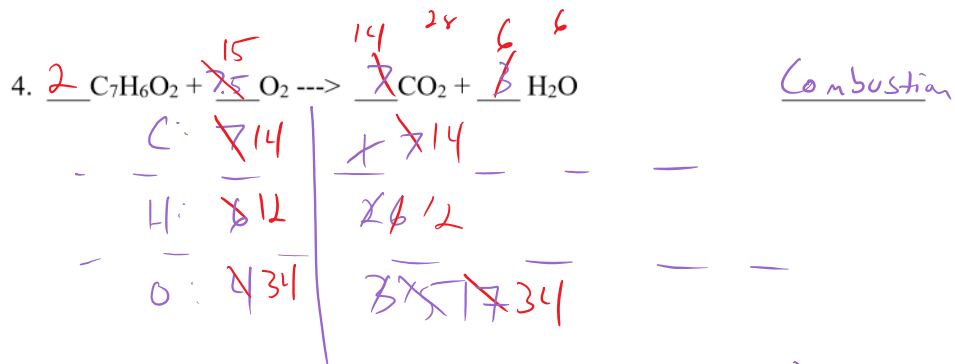
Syn



Decomp



SID



IV) -How do you identify compounds as Ionic or Covalent?

-How do you name: **Ionic** formulas

- ① Name 1st element
- ② Name 2nd element
↳ If its monatomic, change ending to -ide

Covalent formulas

- ① Write name of 1st element using a numerical prefix for its subscript
- ② Write name of 2nd element using a numerical prefix for its subscript & change its ending to -ide

-What does the name of second element always end in? *-ide if its monatomic*

-Name the prefixes?

1	2	3	4	5	6	7	8	9	10
mono	Di	Tri	Tetra	Penta	Hexa	Hepta	Octo	nona	deca

-How do you make formulas for: **Ionic**

- ① Cross the charges
- ② reduce if possible

Covalent

- ① Change the prefixes to subscripts.
- ② Do not cross charges

-What's the significance of roman numerals?

They give the Ionic charge of a transition metal

For each of the chemical compounds: Identify the type and the name/formula

Give the chemical name for:

1) Li_3N Lithium Nitride

2) SeCl_2 Selenium Dichloride

3) Ga_2S_3 Gallium Sulfide

4) C_3P_2 Tricarbon Diphosphide

5) CaF_2 Calcium Fluoride

Give the chemical formula for:

6) Beryllium oxide BeO

7) Silicon tetrabromide SiBr_4

8) Barium iodide BaI_2

9) Nickel (III) oxide Ni_2O_3

10) Trinitrogen pentachloride N_3Cl_5

Compound and Reaction Concepts Review

Short Answer

- When nickel combines with fluorine to form nickel (III) fluoride, the charge of the nickel ion is $3+$
- The covalent compound P_2O_5 would be named *Diphosphorous Pentoxide*
- Give the mole ratio for the following equation:
 $1 \text{ Cu} + 2 \text{ HF} \rightarrow 1 \text{ CuF}_2 + 1 \text{ H}_2$ *1:2:1:1*
- ~~A type of reaction that produces an increase in temperature is~~
- What coefficient is missing in $C_2H_4 + (?)O_2 \rightarrow 2CO_2 + 2H_2O$? *3*
- ~~What occurs in an endothermic reaction but not in an exothermic reaction?~~
- The characteristics of Covalent bonds are... *Share electrons; non-conductive*
- The overall charge in a compound must be 0.
- The chemical formula for an ionic compound of aluminum and bromine is *AlBr₃*
- 0. In which type of bond do atoms share electrons? *covalent*
- 1. Often atoms join so that each atom will have no charge & full outer energy level
- 2. A synthesis reaction is a reaction between at least two compounds in which *they form one new compound*
- 3. What are the signs of a chemical reaction? *color change; fizz/foam; new substance; change in temp*
- 4. In a balanced chemical reaction, the total mass of the products always equals the mass of reactants
- 5. The characteristics of an ionic bond are... *transfer electrons; conductive*
- 6. ~~A release of energy is a sign that~~
- 7. The substances that are formed in a chemical reaction are called the *products*
- 8. Atoms sometimes form bonds to *become stable & neutral*
- 9. Oxygen atoms have six electrons in their outer shells. When two oxygen atoms bond, they will form a(n) covalent bond by sharing their electrons.
- 0. Sodium has one electron in its outer shell and chlorine has seven electrons in its outer shell. The atoms will form a(n) ionic bond by transfering their electrons.