

Name: \_\_\_\_\_  
 Blk: \_\_\_\_\_ Date: \_\_\_\_\_

Chemistry 12  
 Solubility Lesson #4  
 Writing Formula, Complete and Net Ionic Equations

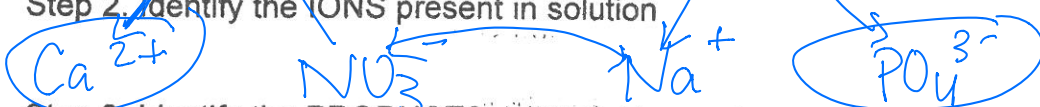
In this unit, every reaction that produces a precipitate will be a double replacement rxn ! Recall from Chemistry 11 that this is a situation in which the ions switch !!!

**Example 1:** Write the reaction occurring when 0.2 M solutions of  $\text{Ca}(\text{NO}_3)_2$  and  $\text{Na}_3\text{PO}_4$  are mixed.

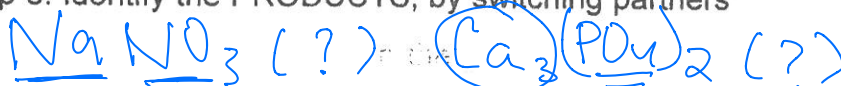
Step 1. Identify the REACTANTS



Step 2. Identify the IONS present in solution



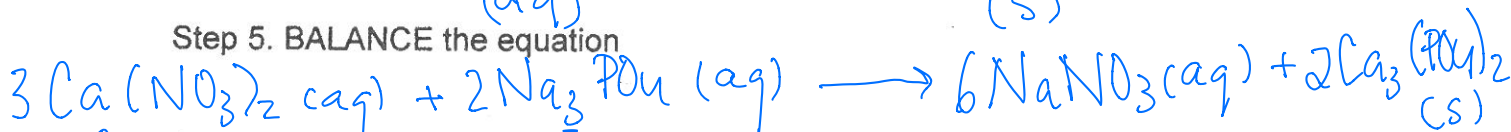
Step 3. Identify the PRODUCTS, by switching partners



Step 4. Look on table to identify product STATES



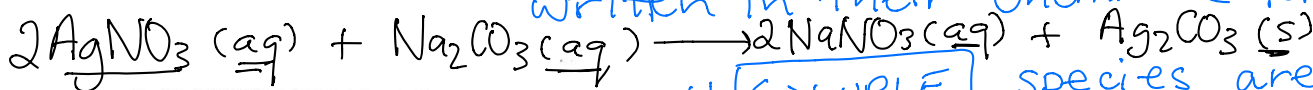
Step 5. BALANCE the equation



Once the balanced equation is determined there are THREE POSSIBLE ways to WRITE THE BALANCED CHEMICAL REACTION

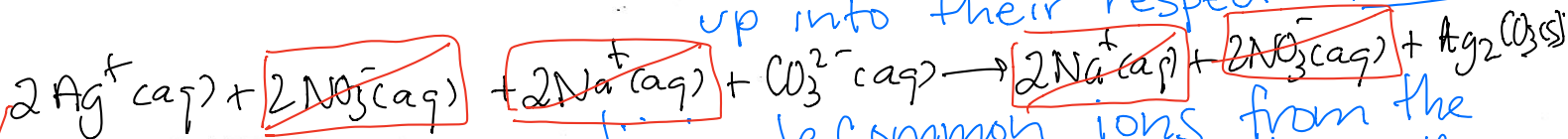
1. FORMULA EQUATION:

all reactants and products are written in their chemical formulas



2. COMPLETE IONIC EQUATION:

all SOLUBLE species are broken up into their respective IONS



3. NET IONIC EQUATION:

eliminate common ions from the chemical rxn; places solid on the reactant side (convention)



**Example 2.**

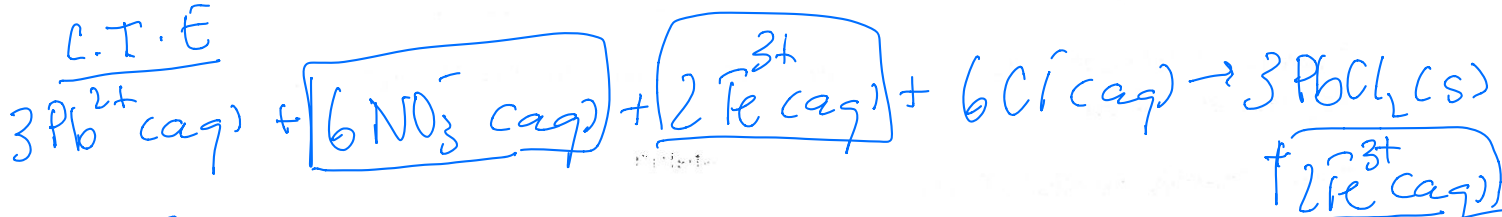
Write a formula equation, complete ionic equation and a net ionic equation for the following reactions in which:

a. 0.2 M  $\text{Pb}(\text{NO}_3)_2$  and 0.2 M  $\text{FeCl}_3$  are mixed

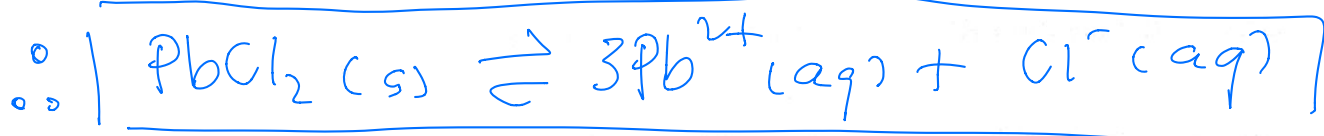
F.E.



C.I.E

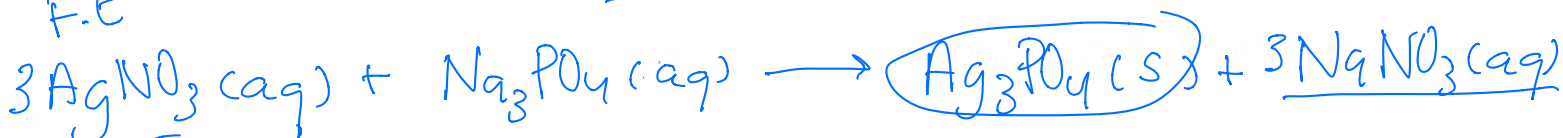


N.I.E

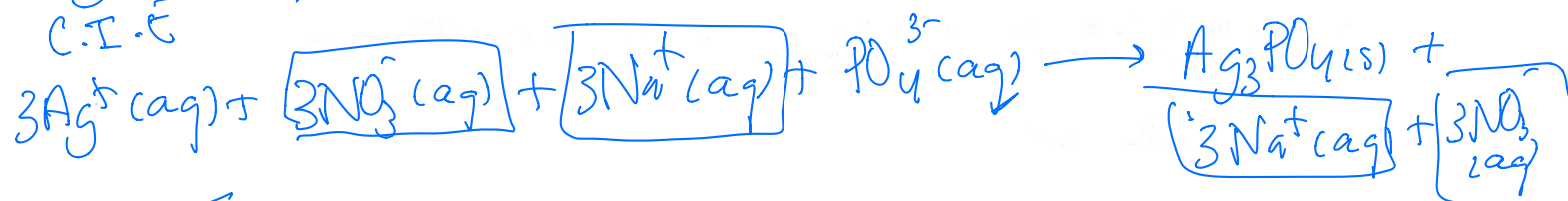


b. 0.2 M Silver nitrate and 0.2 M Sodium phosphate

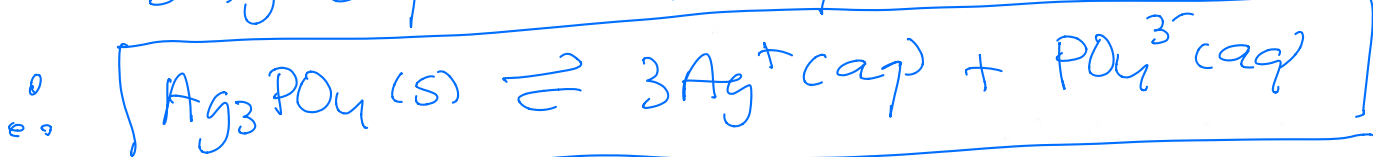
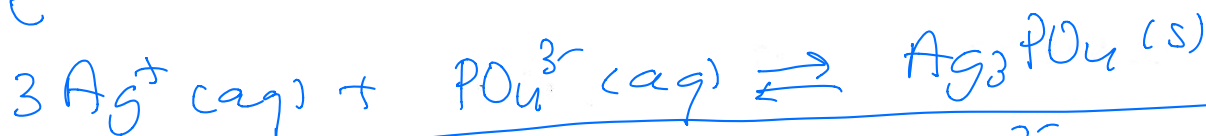
F.E



C.I.E



N.I.E



**SEAT WORK/ HOMEWORK:** Exercise 25 (odd letters only)

**PLO's:** G7, H1, H2 AND H3