

Unit 7 Test Review – Chemical Reactions

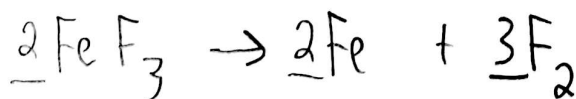
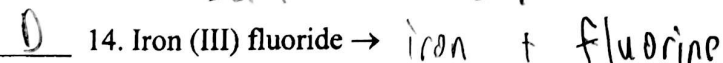
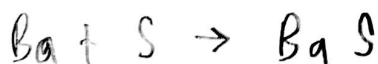
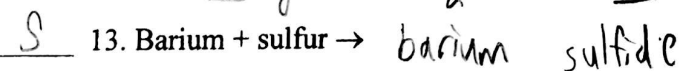
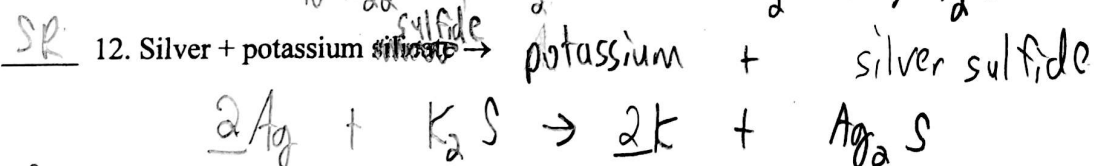
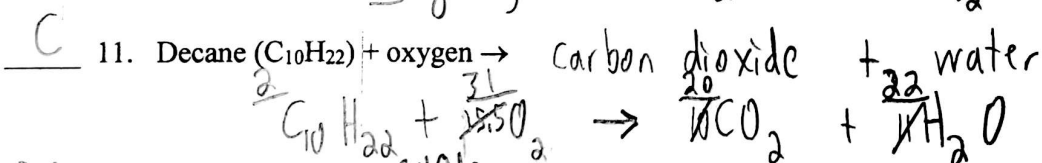
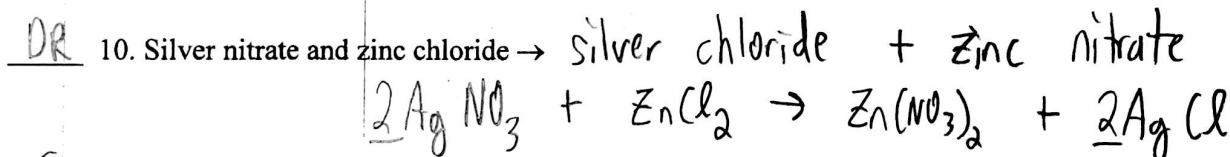
Answer the following questions:

- Define the law of conservation of mass: Matter cannot be created nor destroyed in a chemical reaction. # of atoms of reactants = # of atoms of products.
- Balance the following reaction and then label the side that is the reactants and the products:

$$\underline{2} \text{S} + \underline{3} \text{O}_2 \rightarrow \underline{2} \text{SO}_3$$

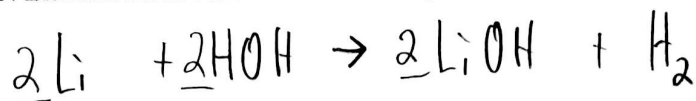
reactant → product
- How would you recognize a synthesis reaction? $A + B \rightarrow AB$
- How would you recognize a combustion reaction? $C_xH_y + O_2 \rightarrow CO_2 + H_2O$
- How would you recognize a decomposition reaction? $AB \rightarrow A + B$
- How would you recognize a single replacement reaction? $A + BC \rightarrow B + AC$
- How would you recognize a double replacement reaction? $AB + CD \rightarrow AD + CB$
- When a substance dissolves in a solution, is it considered soluble or insoluble?
- What is the symbol for a substance that is soluble? \rightarrow soluble aqueous symbol for insoluble? solid

Reaction Prediction - Write the complete balanced equation and finish the word equation. Then state what type of reaction is expected (S, D, SR, DR or C).



Reaction Word Problems – Read the following word problems and write a balanced chemical equation for it.

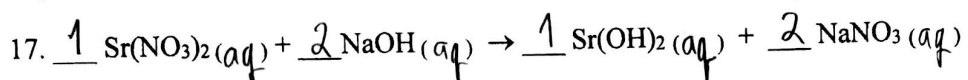
SR 15. Lithium metal reacts with water to produce hydrogen gas and lithium hydroxide.



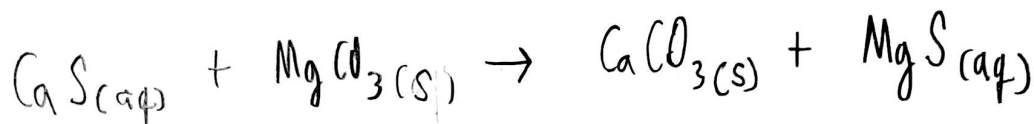
C 16. The combustion of decane ($\text{C}_{10}\text{H}_{22}$) can be written and balanced as:



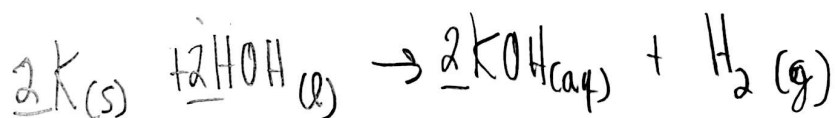
Phase Notations/ States of Matter – Write the balanced chemical equation and include the phase notation for the following problems:



18. Write the complete balanced equation with **phase notation** for a reaction between calcium sulfide and magnesium carbonate:



19. Write the complete balanced equation with **phase notation** for a reaction between potassium metal and water to produce potassium hydroxide and hydrogen gas:



20. Identify the following as an aqueous (aq) or a solid (s). Remember aqueous = soluble and solid = insoluble.

a. AgNO_3 aq

b. KI aq

c. ~~PbI~~ PbI_2 = s

d. CaSO_4 s

e. MgSO_4 aq

f. Na_3PO_4 aq

g. BeS aq