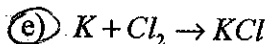
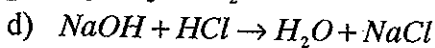
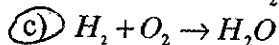
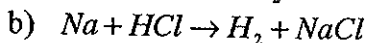
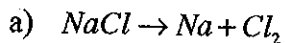


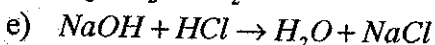
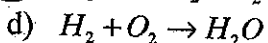
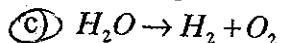
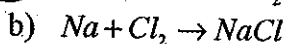
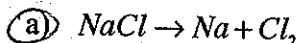
Types of Chemical Reactions

Part A

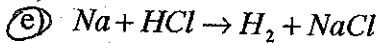
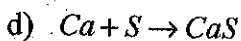
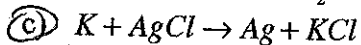
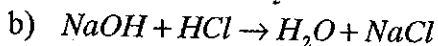
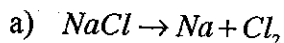
1. A **synthesis** reaction starts with two reactants and ends up with one product. Which of the following reactions are synthesis reactions? (Circle the letters)



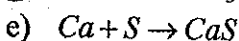
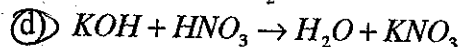
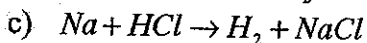
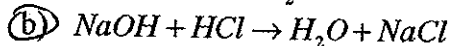
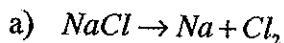
2. A **decomposition** reaction starts with one reactant and ends up with two or more products. Which of the following reactions are decomposition reactions? (Circle the letters)



3. A **single-replacement** reaction starts with two reactants and ends up with two products. The uncombined element takes the place of the combined element in the compound. Which of the following reactions are single-replacement reactions? (Circle the letters)



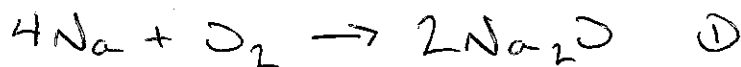
4. A **double-replacement** reaction starts with two reactants and ends up with two products. In this case, both reactants are compounds and both products are compounds. They simply change partners. Which of the following reactions are double-replacement reactions? (Circle the letters)



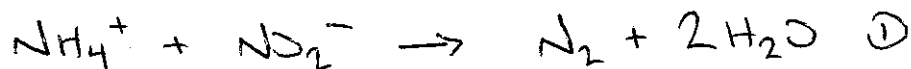
Part B

Write the balanced chemical equation for each reaction below.

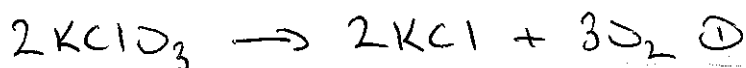
1. sodium + oxygen gas \rightarrow sodium oxide



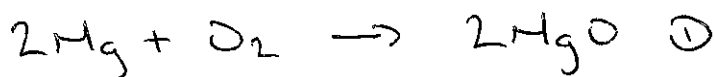
2. ammonium + nitrite \rightarrow nitrogen gas + water



3. potassium chlorate \rightarrow potassium chloride + oxygen gas



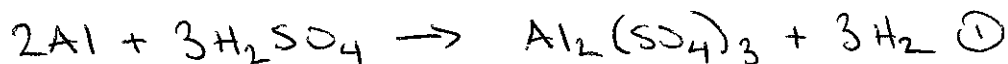
4. magnesium + oxygen gas \rightarrow magnesium oxide



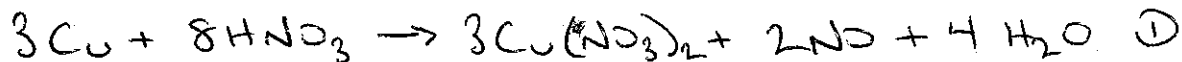
5. magnesium oxide + water \rightarrow magnesium hydroxide



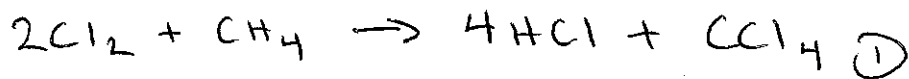
6. aluminum + hydrogen sulphate \rightarrow aluminum sulphate + hydrogen gas



7. copper + hydrogen nitrate \rightarrow copper(II) nitrate + nitrogen monoxide + water



8. chlorine gas + carbon tetrahydride \rightarrow hydrogen chloride + carbon tetrachloride



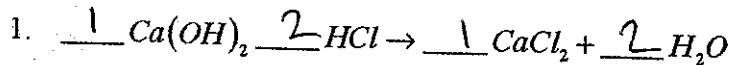
Part C

Balance each of the following reactions and then identify its type (synthesis, combustion, decomposition, single-replacement, or double-replacement).

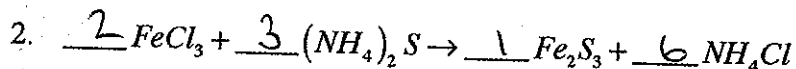
1 for balancing

1 for type

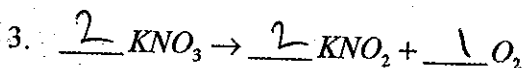
Reaction Type



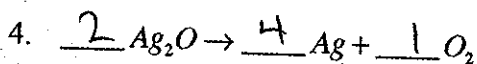
D.R.



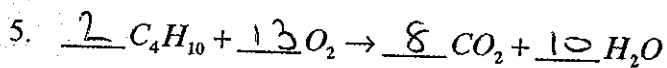
D.R.



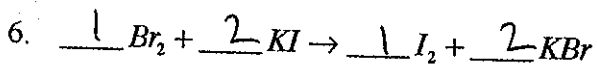
Decomp.



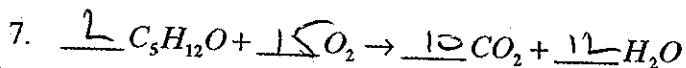
Decomp.



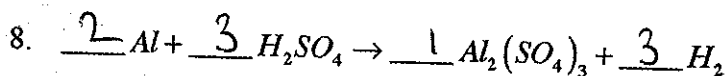
Combust.



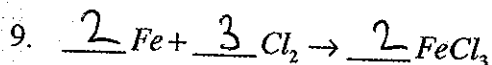
S.R.



Combust.



S.R.



Synth.