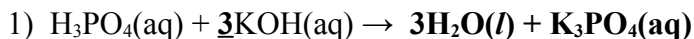
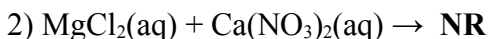


CHM 110: Exchange reactions: Practice set #1: Answers

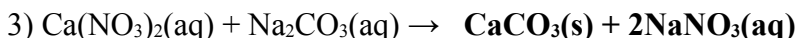
Complete and balance these chemical reactions. Include phase labels. If no reaction occurs, write "NR".



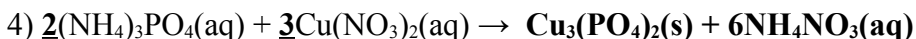
The formation of the water molecule drives this reaction.



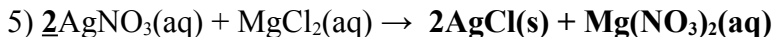
This mixture would form no molecules, and neither potential product is insoluble in water. So, no reaction is observed.



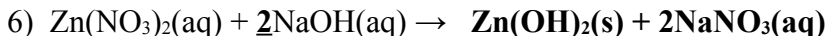
This reaction is driven by the formation of insoluble calcium carbonate.



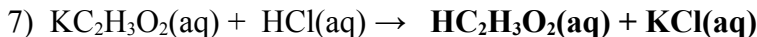
This reaction is driven by the formation of insoluble copper(II) phosphate. In an exchange reaction, transition metal ions do not change their charge.



This reaction forms solid silver(I) chloride (usually just called silver chloride, since silver is one of the few transition metals that normally forms only one kind of ion).



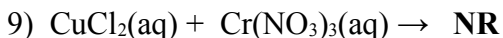
This reaction forms solid zinc(II) hydroxide (usually just called zinc hydroxide. Like silver, zinc is one of the few transition metals that normally forms only one kind of ion).



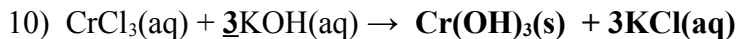
This reaction proceeds because acetic acid, a weak acid that exists in solution mainly as molecules, is formed.



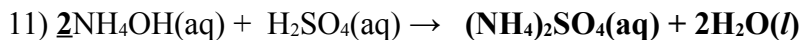
This reaction forms the unstable weak acid carbonic acid, which breaks down into water and carbon dioxide. The carbon dioxide is given off as a gas, and bubbles would be observed forming in this mixture.



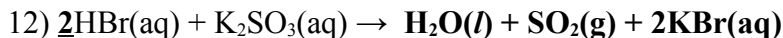
This mixture would form no molecules, and neither potential product is insoluble in water. So, no reaction is observed.



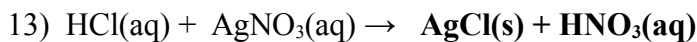
This reaction produces insoluble chromium(III) chloride.



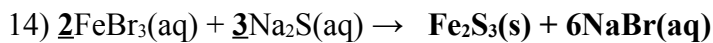
The stable molecule water is formed by this reaction. This is another neutralization.



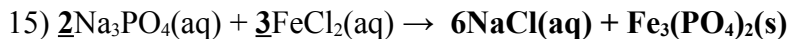
This reaction forms the unstable weak acid sulfurous acid, which breaks down into water and sulfur dioxide. The sulfur dioxide is given off as a gas, and bubbles would be observed forming in this mixture.



This reaction forms solid silver chloride.



Solid iron(III) sulfide forms in this reaction.



Solid iron(II) phosphate forms here. Remember that the charge on a transition metal ion does not change in an exchange reaction.