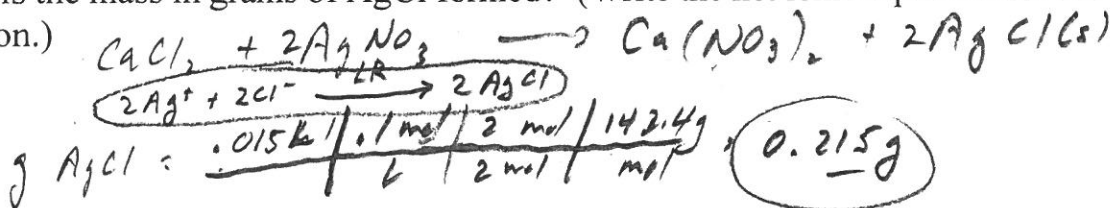


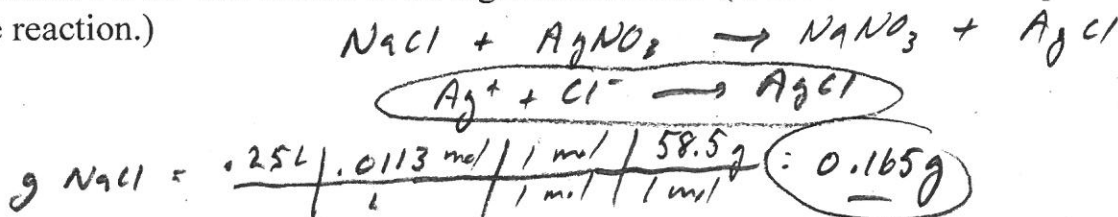
WS 4b
Solution Stoichiometry

Instructions: Solve the following problems showing all work:

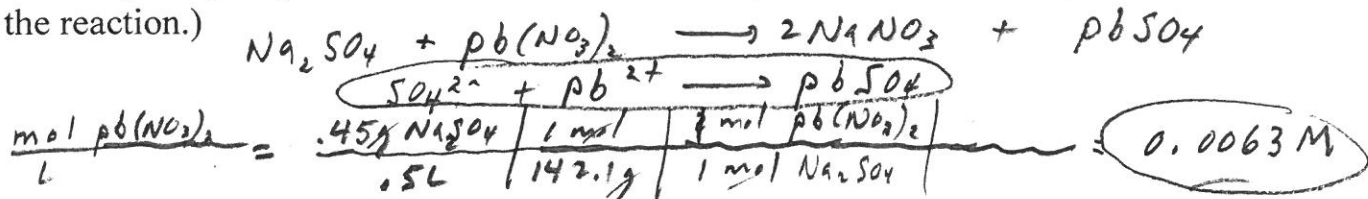
1. The volume of 30.0 mL of 0.150 M CaCl₂ is added to 15.0 mL of 0.100 M AgNO₃. What is the mass in grams of AgCl formed? (Write the net ionic equation for the reaction.)



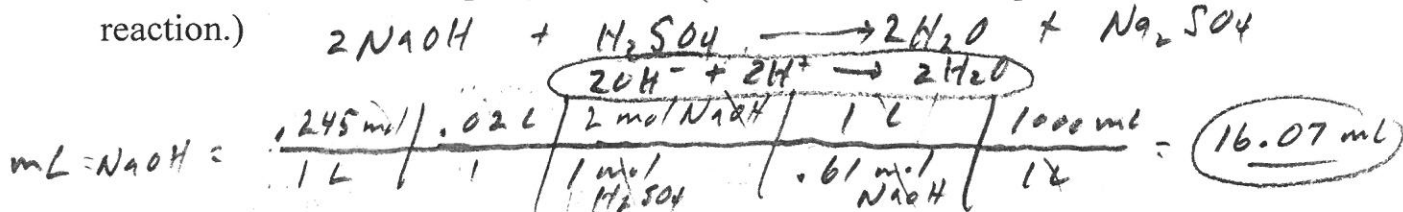
2. How many grams of NaCl are required to precipitate practically all of the Ag⁺ ions from 2.50 x 10² mL of 0.0113 M AgNO₃ solution? (Write the net ionic equation for the reaction.)



3. The concentration of Pb²⁺ ions in a sample of polluted water that also contains nitrate ions (NO₃⁻) is determined by adding solid sodium sulfate to exactly 500 mL of the water. Calculate the molar concentration of Pb²⁺ if 0.450 g of Na₂SO₄ was needed for the complete precipitation of Pb²⁺ ions as PbSO₄. (Write the net ionic equation for the reaction.)



4. How many mL of a 0.610 M NaOH solution are needed to completely neutralize 20.0 mL of a 0.245 M H₂SO₄ solution? (Write the net ionic equation for the reaction.)



5. In a base standardization procedure involving titration, a student finds that 0.5468 g of KHP (KHC₈H₄O₄) is needed to completely neutralize 23.48 mL of NaOH solution. What is the molarity of the NaOH solution?

