Precipitation Titration:

The precipitation titration of 25.0 mL of $Ag(NO_3)$ required 15.0 mL of .0360 M NaCl to reach equivalence. Answer the following questions:

1) What is the precipitation titration equation?

2) What is the K_{sp} equilibrium equation? (look up the K_{sp} & pK_{sp} value in the book)

3) Calculate both $[Ag^+]$ and pAg^+ in the original analyte solution? 1.66

4) Calculate both $[Ag^+]$ and pAg^+ after the addition of 1.00 mL of the NaCl? 1.71

5) Determine $[Ag^+]$ and pAg^+ after the addition of 7.50 mL of the NaCl. 2.08

6) Determine $[Ag^+]$ and pAg^+ after the addition of 14.50 mL of the NaCl. 3.34

7) Determine $[Ag^+]$ and pAg^+ after the addition of 15.00 mL of the NaCl. 4.87

8) Determine $[Ag^+]$ and pAg^+ after the addition of 15.50 mL of the NaCl. (Here you may use a simplifying assumption in your calculation but you must later show that your assumption is valid). 6.39

9) Calculate both $[Ag^+]$ and pAg^+ after the addition of 20.0 mL of the NaCl. 7.35

10) Calculate both $[Ag^+]$ and pAg^+ after the addition of 25.0 mL of the NaCl. 7.60

11) Sketch a "rough graph" of pAg^+ (y-axis) vs mL of NaCl added (x-axis). Try to make it neat and accurate but don't use a computer to do this graph.

(This seemingly tedious exercise can be speeded up by the shortcuts introduced in lecture)