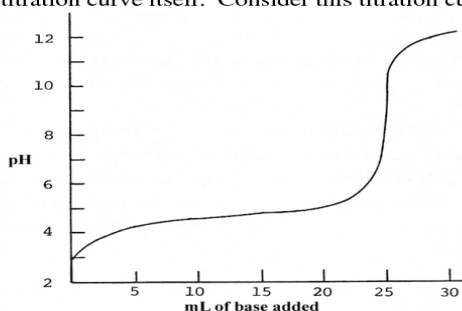
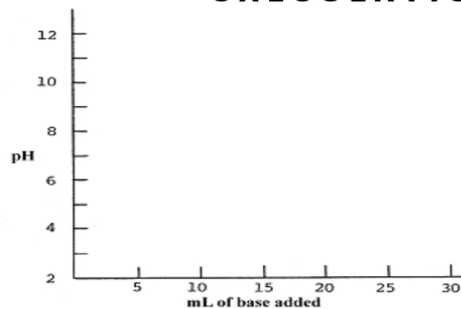


Acid-Base Reactions**Information from the Curve:**

There are several things you can read from the titration curve itself. Consider this titration curve.



- This is a _____ (strong/weak) acid titrated with a strong base. The acid is _____ (monoprotic/diprotic). How would the other strength of acid look?
- Place a dot (•) on the curve at the equivalence point. The pH at the equivalence point is _____. Choose a good indicator for this titration from Figure 17.11 on page 810 of your textbook.
- What volume of base was used to titrate the acid solution? _____ mL
- Place a box (■) on the curve where the pH of the solution = the pK_a of the acid.
What is the pH at this point? _____
What is the pK_a of the acid? _____
What is the K_a of the acid? _____

Calculations knowing the Acid:**CALCULATIONS**

- Hydrofluoric acid, HF, has a $K_a = 7.2 \times 10^{-4}$. Calculate the pH of 10.0 mL of a 0.050 M solution of HF. Plot this point on the axes.
- A 0.020 M solution of NaOH is used for the titration. What volume will be needed to reach the equivalence point?
- Write the net reaction for the neutralization of a solution of HF with a solution of NaOH.

- Calculate the moles of F^- at the equivalence point. What is the total volume? _____ L
The $[F^-]$ at the equivalence point is _____
- Calculate the pH of the solution at the equivalence point. Use this information and the answer to question 6 to plot the equivalence point on your graph. Choose a good indicator for this titration from Figure 17.11 on page 810 of your textbook.
- What is the pH halfway to the equivalence point? Plot this point on your graph.