

Quiz 14.7 – Weak Acid/Base Titrations

Name: _____

These questions concern titrating a solution of HNO_2 with NaOH . 25.00 *ml* of the HNO_2 solution with unknown concentration are placed in an Erlenmeyer flask, and a burette is filled with a 0.575 *M* solution of NaOH

Question 1

NaOH is added slowly while the *pH* is monitored. How will you know when the equivalence point of the titration has been reached?

Question 2

The equivalence point is reached after 23.42 *ml* of the base have been added. What was the initial acid concentration?

Question 3

Now that you know the initial concentration, calculate what the *pH* should have been before any base was added

Question 4

What is the *pH* at the equivalence point, and which acid/base indicator would be appropriate for identifying the end-point in a titration without a *pH* meter?

Question 5

What will the *pH* be after 11.71 *ml* of NaOH have been added?

Question 6

What will the *pH* be after you have added 23.67 *ml* and 23.17 *ml* of the NaOH solution

Question 7

On the back of this page, sketch the titration curve, noting the *pH* at the most important points

Pioneers

By Carol Lynn Pearson

My people were Mormon pioneers.
Is the blood still good?
They stood in awe as truth
Flew by like a dove
And dropped a feather in the West.
Where truth flies you follow
If you are a pioneer.
I have searched the skies
And now and then
Another feather has fallen.
I have packed the handcart again
Packed it with the precious things
And thrown away the rest.
I will sing by the fires at night
Out there on uncharted ground
Where I am my own captain of tens
Where I blow the bugle
Bring myself to morning prayer
Map out the miles
And never know when or where
Or if at all I will finally say,
"This is the place,"
I face the plains
On a good day for walking.
The sun rises
And the mist clears.
I will be all right:
My people were Mormon Pioneers.