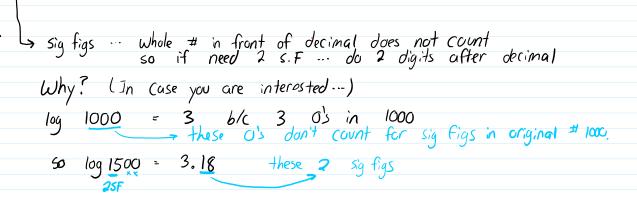
Examples: I. What is pH of a 0.01M HCl solp?

2. What is pH of a 0.0035M CalOHb solp?



3. What is [HzOt] in an unknown acid with pH of 3.405?

The pH Scale:

- A scale for large changes ... log scale

```
- A scale for large changes ... log scale
                           [H301] = 10 = 10 = 10 = 1
                                            "anti log"
 pH = = log [fb01]
  poH= -log[OH-]
                            [OH-] = 10-20
 ... wait! .... what? Where did pot come from?
  - the pott scale measures the COHI in a solution (pH measures [H301])
  - it is the "reverse" of the pH scale POH = 0-6.9 = Basic!
   - pH+ poH= 14 so a sol with pH=11 has poH= 3
   - If question gives [OH] a asks for poH, do 1 step : poH=-log [OH]
   - If question gives [H30t] & asks for poH ... 2 steps
                  1. PH= - log [ +30+]
                  2. POH= 14 - PH.
PH Scale is meant for use from 0-14 ... But exceptions ...
 a pH of -1.00 is better handled as [Hot] = 10 M very

pH = -log [H30t]

Strong
    -1.00 = -100-CF130]
10 = CF130+]-
 a pH of 15,0 is better handled as [CH-] = 10 M
Hint; what is OH =
            Use pot instead POH=-1 / pH= 15
```

Example #1 What is the pOH of G.2g of NaOH in 500 mL of water?

What is the pH?

Example #2: At a certain emp, neutral water has a pH of 7.791 what is Kw & LOHT at this temp.?

IV. Acids.Bases Page 2

Is this Water hotter or colder than 25°C?

Example #3: Assume a system is not at 25°C but rather involves a sample of pure water at it's boiling temperature.

2 H2O(a) + 59KJ === H3O(ay) + COHJ(ay)

- a) What happens to the pH of the water as the temperature increases?
- b) What happens to the pott of the water as the temperature increases?
- c) What happens to the value of pkw as the temperature increases?