[Chapter 15 (Acids and Bases) Questions](http://session.masteringchemistry.com/myct/assignment?assignmentID=2386280) Part 2

1. 0.25g gof sodium hydroxide (NaOH \rm NaOH) pellets are dissolved in water to make 7.0L Lof solution. What is the pOH \rm pOHof the solution in Part B? Express the pOH numerically to two decimal places.
2. Calculate the pH \rm pHof a 0.10 M Msolution of barium hydroxide, Ba(OH) 2  \rm Ba(OH)_2.Express your answer numerically using two decimal places.
3. Calculate the pH \rm pHof a 0.10 M Msolution of NaOH \rm NaOH. Express your answer numerically using two decimal places.
4. Calculate the pH \rm pHof a 0.10 M Msolution of hydrazine, N 2 H 4 \rm N_2H_4. K b K_bfor hydrazine is 1.3×10 −6 1.3\times 10^{-6}. Express your answer numerically using two decimal places.
5. Calculate the pH \rm pHof a 0.10 M Msolution of hypochlorous acid, HOCl \rm HOCl. K a K_aof HOCl \rm HOClis 3.5×10 −8 . Express your answer numerically using two decimal places.
6. Calculate the pH \rm pHof a 0.10 M Msolution of HCl \rm HCl. Express your answer numerically using two decimal places.
7. If K b K_bfor NX 3 \rm NX_3is 7.0×10−6, what is the pOH \rm pOHof a 0.175M \it Maqueous solution of NX 3 \rm NX_3? Express your answer numerically.
8. If K b K_bfor NX 3 \rm NX_3is 7.0×10−6, what is the percent ionization of a 0.325M \it Maqueous solution of NX 3 \rm NX_3?

Express your answer numerically to three significant figures.

1. If K b K_bfor NX 3 \rm NX_3is 7.0×10−6 , what is the the pK a {\rm p}K_{\rm a}for the following reaction?

HNX 3 + (aq)+H 2 O(l)⇌NX 3 (aq)+H 3 O + (aq) \rm {HNX_3}^+(aq)+H_2O(l)\rightleftharpoons NX_3(aq)+H_3O^+(aq)Express your answer numerically to two decimal places.

1. For each strong base solution, determine [H 3 O + ] [OH − ] \rm [OH^-], pH \rm pH, and pOH . 8.76×10−3M MLiOH , 8.76×10−3M MLiOH {\rm{LiOH}},8.76×10−3M MLiOH, and 8.76×10−3M MLiOH
2. Determine the pH \rm pHof each solution. 0.16M MKCHO 2 {\rm{KCHO}}_2, 0.20M MCH 3 NH 3 I , 0.20M MCH 3 NH 3 I {\rm{CH}}_3 {\rm{NH}}_3 {\rm{I}}{\rm{CH}}_3 {\rm{NH}}_3 {\rm{I}}
3. Rank the acids from strongest to weakest.:MgH2,HBr, HI, H2Se
4. Using the Arrhenius concept of acids and bases, identify the Arrhenius acid and base in each of the following reactions: HF, LiOH, HNO3, (CH3)2NH
5. Using the Brønsted-Lowry concept of acids and bases, identify the Brønsted-Lowry acid and base in each of the following reactions: HSO 4 − ,H 2 O, (CH 3 ) 3 N , BCl 3