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

1. 0.25g of sodium hydroxide (NaOH ) pellets are dissolved in water to make 7.0L of solution. What is the pOH of the solution in Part B? Express the pOH numerically to two decimal places.
2. Calculate the pH of a 0.10 M solution of barium hydroxide, Ba(OH) 2 .Express your answer numerically using two decimal places.
3. Calculate the pH of a 0.10 M solution of NaOH . Express your answer numerically using two decimal places.
4. Calculate the pH of a 0.10 M solution of hydrazine, N 2 H 4 . K b for hydrazine is 1.3×10 −6 . Express your answer numerically using two decimal places.
5. Calculate the pH of a 0.10 M solution of hypochlorous acid, HOCl . K a of HOCl is 3.5×10 −8 . Express your answer numerically using two decimal places.
6. Calculate the pH of a 0.10 M solution of HCl . Express your answer numerically using two decimal places.
7. If K b for NX 3 is 7.0×10−6, what is the pOH of a 0.175M aqueous solution of NX 3 ? Express your answer numerically.
8. If K b for NX 3 is 7.0×10−6, what is the percent ionization of a 0.325M aqueous solution of NX 3 ?

Express your answer numerically to three significant figures.

1. If K b for NX 3 is 7.0×10−6 , what is the the pK a for the following reaction?

HNX 3 + (aq)+H 2 O(l)⇌NX 3 (aq)+H 3 O + (aq) Express your answer numerically to two decimal places.

1. For each strong base solution, determine [H 3 O + ] [OH − ] ![\rm [OH^-]](), pH , and pOH . 8.76×10−3M LiOH , 8.76×10−3M LiOH ,8.76×10−3M LiOH, and 8.76×10−3M LiOH
2. Determine the pH of each solution. 0.16M KCHO 2 , 0.20M CH 3 NH 3 I , 0.20M CH 3 NH 3 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