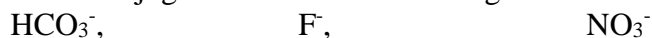


For complete credit show all the work for the calculations and give the answers in the correct significant figures.

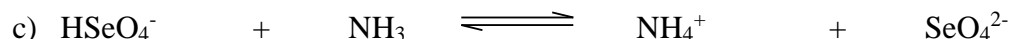
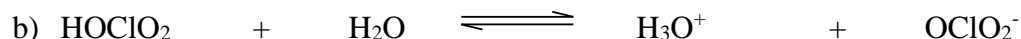
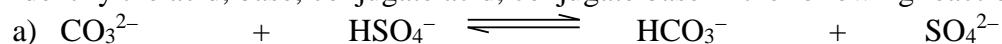
1) Write the conjugate base for the following acids:



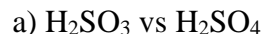
2) Write the conjugate acid for the following bases:



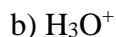
3) Identify the acid, base, conjugate acid, conjugate base in the following reaction.



4) Circle the stronger of the acid or base in the following pairs of acids and bases. (indicate if you are comparing them as acids or bases)



5) Classify the following as Lewis acids or Lewis bases:



6) Calculate the pH, pOH, $[\text{H}_3\text{O}^+]$ or $[\text{OH}^-]$ concentrations as indicated in the problem:

a) $[\text{H}_3\text{O}^+]$ in a HCl solution of pH 3.76.

b) pH of a 0.056 M HNO_3 solution

c) pOH for 0.039 M HCl

d) pH for 2.5×10^{-4} M $\text{Ca}(\text{OH})_2$

e) $[\text{OH}^-]$ for paint stripper with pH 13.70