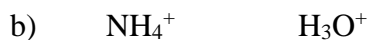


ACID & BASE STRENGTH**Exit Ticket 11**

- Place the species in each of the following groups in order of increasing acid strengths. Give reasons for the orders you chose.
 - H_2O , H_2S , H_2Se
 - $\text{CH}_3\text{CO}_2\text{H}$, $\text{F}_3\text{CCO}_2\text{H}$, $\text{FCH}_2\text{CO}_2\text{H}$, $\text{F}_2\text{CHCO}_2\text{H}$
 - NH_4^+ , PH_4^+
- Will the following oxides give acidic, basic or neutral solutions when dissolved in water? Write equations to justify your answers.
 - CaO
 - SO_2
 - Cl_2O
- Using your textbook for any information you need, calculate the equilibrium constant for the following aqueous reactions:
 - $\text{NH}_3 + \text{H}_3\text{O}^+ \rightleftharpoons \text{NH}_4^+ + \text{H}_2\text{O}$
 - $\text{HNO}_2 + \text{OH}^- \rightleftharpoons \text{NO}_2^- + \text{H}_2\text{O}$

4. Without relying on a pKa table, rank each set of compounds in order of decreasing acidity. (Note: Where there are more than one hydrogen, the acidic hydrogens are indicated in bold type). Give a reason for your choices.



5. Based on the information given, determine which direction the equilibrium favors in each reaction below. Give a rationale for your choices.

