1) Write the conjugate base for the following acids:

 H_3PO_4

HCl,

 H_2S

2) Write the conjugate acid for the following bases:

OH-,

 HSO_4 ,

ClO-

3) Identify the acid-base and conjugate acid/conjugate base pair in the following equations.

a) HCO₃

+ OH-

CO3²⁻ +

H₂O

b) $C_5H_5NH^+$

+ H₂O ====

 C_5H_5N

 $+ H_3O^+$

4) Circle the stronger acid in the following pairs:

a) H₂S vs H₂Se

b) HNO₃ vs HNO₂

c) HClO₃ vs HIO₃

- d) CH₃CHFCOOH vs CH₂FCH₂COOH
- 5) Calculate the pH, pOH, [H₃O⁺] or [OH⁻] concentrations as indicated in the problem:
 - a) pH for 0.65 M HBr
 - b) pOH for 0.073 M LiOH
 - c) pH for 0.070 M KOH
 - d) [H₃O⁺] for lemonade, pH 2.91
 - e) [OH⁻] for blood plasma, pH 7.42

- 6) Classify the following as acidic, basic or neutral salts:
 - a) LiCl

- b) KNO₃
- c) NH₄Cl
- d) Na₃PO₄

- 7) Identify the Lewis acid and the base in the following reactions.
 - a) Cu^{2+}
- + 4NH₃
- $[Cu(NH_3)_4]^{2+}$

- b) CO_2 + OH^-
- HCO_3^-