

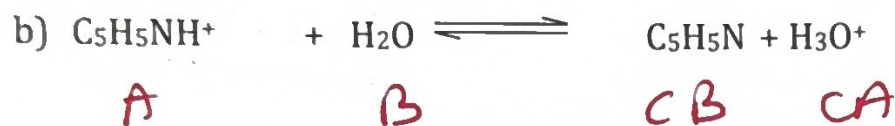
1) Write the conjugate base for the following acids:



2) Write the conjugate acid for the following bases:



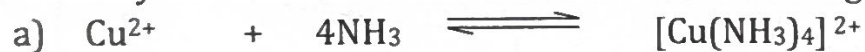
3) Identify the acid-base and conjugate acid/conjugate base pair in the following equations.



4) Circle the stronger acid in the following pairs:



5) Identify the Lewis acid and the base in the following reactions.



6) Calculate the pH, pOH,  $[H_3O^+]$  or  $[OH^-]$  concentrations as indicated in the problem:

a) pH for 0.65 M HBr

$$pH = -\log 0.65 = \boxed{0.187}$$

b) pOH for 0.073 M LiOH

$$pOH = -\log 0.073 = \boxed{1.1}$$

c) pH for 0.070 M KOH

$$pOH = -\log 0.07 = 1.155; pH = 14 - 1.155 = \boxed{12.8}$$

d)  $[H_3O^+]$  for lemonade, pH 2.91

$$\text{antilog } -2.91 = \boxed{1.07 \times 10^{-3} \text{ M}}$$

e)  $[OH^-]$  for blood plasma, pH 7.42

$$\begin{aligned} \text{antilog } -7.42 &= 3.802 \times 10^{-8} \text{ M} = [H_3O^+] \\ [OH^-] &= \frac{1.0 \times 10^{-14}}{3.802 \times 10^{-8}} = \boxed{2.63 \times 10^{-7} \text{ M}} \end{aligned}$$