Now you try!

1. In the following reactions, identify the acid, base, conjugate acid (CA) and conjugate base (CB).

   a) $HBr(aq) + NH_3(aq) \rightarrow NH_4^+(aq) + Br^-(aq)$

   A B CA CB

   b) $HPO_4^{2-}(aq) + H_2SO_4(aq) \rightarrow HSO_4^-(aq) + H_2PO_4^-(aq)$

   B A CB CA

   c) $CO_3^{2-}(aq) + NH_4^+(aq) \rightleftharpoons NH_3(aq) + HCO_3^-(aq)$

   B A CB CA

2. What is the conjugate base of H_2S? HS^-

3. What is the conjugate acid of HCO_3^-? H_2CO_3

3. Which of the following represent a Bronsted-Lowry conjugate acid-base pair?

   a. $H_2CrO_4(aq)$ and $CrO_4^{2-}(aq)$

   (b.) $HCrO_4^-(aq)$ and $CrO_4^{2-}(aq)$

   c. $HCrO_4^-(aq)$ and $H_2O(l)$

   d. $H_3O^+(aq)$ and $OH^-(aq)$

4. Which of the following species is amphoteric?

   a. H^+

   b. CO_3^{2-}

   (c.) HCO_3^-

   d. H_2CO_3

$$\underset{A}{HSO_4^-} + \underset{B}{H_2O} \leftrightharpoons \underset{CA}{H_3O^+} + \underset{CB}{SO_4^{2-}}$$

5. In the equilibrium represented above, the species that act as bases include which of the following?

   a. SO_4^{2-}

   b. HSO_4^-

   (c.) H_2O and SO_4^{2-}

   d. H_2O