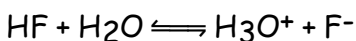




- 7) In the reaction  $\text{HBr} + \text{H}_2\text{O} \rightleftharpoons \text{H}_3\text{O}^+ + \text{Br}^-$ , which is a conjugate acid-base pair?
- A)  $\text{H}_3\text{O}^+$  and  $\text{Br}^-$     C) HBr and  $\text{Br}^-$   
B)  $\text{H}_3\text{O}^+$  and HBr    D) HBr and  $\text{H}_2\text{O}$
- 8) According to the Bronsted-Lowry theory,  $\text{H}_2\text{O}$  is considered to be a base when it
- A) accepts an electron    C) donates a proton  
B) accepts a proton    D) donates an electron
- 9) According to the Arrhenius theory, a substance that is classified as an acid will *always* yield
- A)  $\text{NH}_4^+(\text{aq})$     B)  $\text{CO}_3^{2-}(\text{aq})$     C)  $\text{H}^+(\text{aq})$     D)  $\text{OH}^-(\text{aq})$
- 10) As HF dissolves in water, the following ionization reaction occurs:



In this reaction, a proton is donated to

- A) HF by  $\text{F}^-$     C)  $\text{H}_2\text{O}$  by HF  
B)  $\text{H}_3\text{O}^+$  by  $\text{F}^-$     D)  $\text{H}_3\text{O}^+$  by  $\text{H}_2\text{O}$
- 11) When an Arrhenius base is placed in  $\text{H}_2\text{O}$ , the only negative ion present in the solution is
- A)  $\text{H}^-$     B)  $\text{O}^{2-}$     C)  $\text{OH}^-$     D)  $\text{H}_3\text{O}^-$
- 12) According to the Arrhenius theory, when an acid substance is dissolved in water it will produce a solution containing only one kind of positive ion. To which ion does the theory refer?
- A) hydrogen    B) sodium    C) acetate    D) chloride
- 13) An aqueous solution of an ionic compound turns red litmus blue, conducts electricity, and reacts with an acid to form a salt and water. This compound could be
- A)  $\text{KNO}_3$     B) HCl    C) LiOH    D) NaI