**Dougherty Valley HS AP Chemistry**

**S-77**

**Acid Base Equilibrium**

**Quick Check #2**

**Name: Date: Period: Seat #:**

🞎 **Equilibrium Favors the Weaker Acid/Weaker Base**

Consider this equation: HCN + H2O ⮀ H3O+ + CN Ka = 4.0 x 10-10.

The two bases are: \_\_\_\_\_ and \_\_\_\_\_. The weaker base is \_\_\_\_\_\_\_\_.

🞎 **I.C.E. Box Problem**

Calculate the pH of a 0.100 M HCN solution. Ka for HCN = 4.0 x 10 -10

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | HCN | H2O(*l*) | ⮀ | H3O+ | CN |
| Initial |  |  |  |  |  |
| Change |  |  |  |  |  |
| Equilibrium |  |  |  |  |  |

🞎 **pH Problems**

Calculate the pH of a 0.100 M HBr solution. \_\_\_\_\_\_\_

Calculate the pH of a 0.100 M KOH solution. \_\_\_\_\_\_\_

Calculate the pH of a 0.100 M NH3 solution. \_\_\_\_\_\_\_ Kb for NH3 = 1.8 x 10-5

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | NH3 | H2O(l) | ⮀ | NH4+ | OH |
| Initial |  |  |  |  |  |
| Change |  |  |  |  |  |
| Equilibrium |  |  |  |  |  |

🞎 **Conjugate Bases**

CN- is the conjugate base of the weak acid, HCN. Finish the equation below:

CN + H2O ⮀