Practice Sheet Acids and Bases Key

1. Write the formula for the following:
2. The conjugate base of H3PO4 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. The conjugate acid of C2H3O2- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Write an equation to illustrate the acid-base reactions that will take place between H2CO3 and NH3. Identify the acids, conjugate acid, base and conjugate base.
5. A 25.00 mL sample of sulfuric acid, H2SO4, solution required 12.06 mL of 0.2675 M sodium hydroxide, NaOH, solution for complete neutralization.
6. Write the balanced neutralization reaction.
7. What is the molarity of the sulfuric acid?
8. Answer the following questions about black coffee, 5.7 x 10-5 M H+ (6 points).
9. What is the pH?
10. What is the pOH?
11. What is the hydroxide ion, OH-, concentration?
12. Is the coffee acidic, basic, or neutral? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
13. Fill in the chart below: (give concentrations to 3 sig figs and pH and pOH to 3 places after the decimal.)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| [H3O+] | [OH-1] | pH | pOH | Acidic or basic |
|  | 3.87 x 10-4 M |  |  |  |
|  |  | 8.334 |  |  |