Name: _____

Date: _____ Hour: _____

There are two formulas that are important to calculating pH:

$$pH = -\log[H^+] \qquad\qquad AND \qquad\qquad [H^+] = 10^{-pH}$$

With those in mind, calculate the pH or $[H^+]$ of the following solutions:

1)    $0.00010\ M\ H^+$                                    5)    $pH = 3.72$

2)    $4.09 \times 10^{-2}\ M\ H^+$                     6)    $pH = 6.65$

3)    $0.048\ M\ H^+$                                         7)    $pH = 8.2$

4)    $0.150\ M\ H^+$                                         8)    $pH = 4.25$

**Calculate the $[H^+]$ of each substance and decide if it is an acid or a base.**

| Substance | pH | $[H^+]$ | Acid or Base? |
|---|---|---|---|
| vinegar | 2.9 | | |
| orange | 3.5 | | |
| rainwater | 6.2 | | |
| seawater | 8.5 | | |
| soft drink | 3.0 | | |
| tomato | 4.2 | | |
| egg | 7.8 | | |
| milk of magnesia | 10.5 | | |

Chemistry Chapter 23                    Name: _____
Questions on Pages 578-579
                                        Date: _____ Hour: _____

1. What is a binary acid? _____

2. What prefix and suffix are used to name binary acids? _____

3. What is the acid name of HF? _____

4. What is the acid name of $H_2S$? _____

5. What is a ternary acid? _____

6. What determines the prefix and suffix used with ternary acids? _____

7. Fill in the following chart about naming acids:

| Number of Oxygens | Prefix &/or Suffix of Ion | Rule for naming the acid |
|---|---|---|
|  | per-_____-ite |  |
| most common number | -ate |  |
|  | _____-ite |  |
|  | hypo-_____-ite |  |

8. What two acids does bromine form? _____

9. What does nitric acid produce when it reacts with copper? _____

10. What is the name of $H_3PO_4$? _____

11. What are Arrhenius bases composed of? _____

_____

12. How are Arrhenius bases named? _____

13. What is the name of NaOH? _____

14. What is the name of $Ca(OH)_2$? _____

15. What is the name of FrOH? _____