Name _____ Lab Partner _____

TA Name _____ Section _____ Date _____

Mixtures of Acids and Bases PreLab Worksheet

1. Which chemicals in the experiment are considered corrosive? Select all that apply.

- ☐ Na_2SO_4
- ☐ HCl
- ☐ $NaC_2H_3O_2$
- ☐ NaH_2PO_4
- ☐ NH_4Cl
- ☐ NaOH

2. What action should you take if you splash a corrosive material in your eye? Select all that apply.

- ☐ Have your lab partner notify your lab instructor about the accident.
- ☐ Use the eyewash immediately.
- ☐ Hold your eyes open and flush with water.
- ☐ Go to your instructor immediately for assistance.
- ☐ Have your lab partner find the correct solution to neutralize the chemical.

3. What should be done with the wastes associated with this experiment? Select all that apply.

- ☐ The HCl and NaOH should be poured into the container on the side shelf, but all the others can be flushed down the sink with water.
- ☐ There is no waste.
- ☐ They call all be flushed down the sink with water.
- ☐ They should be kept in a labeled beaker at the desk and poured into the container by the side shelf at the end of the experiment.

4. Circle all the formulas that are used to calculate the pH for the following mixtures.

a. weak base in water:

$[H_3O^+] = (K_a \text{ x } c_{oa})^{1/2}$ $\quad pH = -\log[H_3O^+]$ $\quad pH + pOH = 14$

$[OH^-] = (K_b \text{ x } c_{ob})^{1/2}$ $\quad pOH = -\log[OH^-]$ $\quad pH = pK_a + \log(\text{base/acid})$

b. weak acid and weak base in water:

$[H_3O^+] = (K_a \text{ x } c_{oa})^{1/2}$ $\quad pH = -\log[H_3O^+]$ $\quad pH + pOH = 14$

$[OH^-] = (K_b \text{ x } c_{ob})^{1/2}$ $\quad pOH = -\log[OH^-]$ $\quad pH = pK_a + \log(\text{base/acid})$

c. weak base and strong base in water:

$[H_3O^+] = (K_a \text{ x } c_{oa})^{1/2}$ $\quad pH = -\log[H_3O^+]$ $\quad pH + pOH = 14$

$[OH^-] = (K_b \text{ x } c_{ob})^{1/2}$ $\quad pOH = -\log[OH^-]$ $\quad pH = pK_a + \log(\text{base/acid})$

d. weak acid in water:

$[H_3O^+] = (K_a \text{ x } c_{oa})^{1/2}$ $\quad pH = -\log[H_3O^+]$ $\quad pH + pOH = 14$

$[OH^-] = (K_b \text{ x } c_{ob})^{1/2}$ $\quad pOH = -\log[OH^-]$ $\quad pH = pK_a + \log(\text{base/acid})$

e. weak acid and strong acid in water:

$[H_3O^+] = (K_a \text{ x } c_{oa})^{1/2}$ $\quad pH = -\log[H_3O^+]$ $\quad pH + pOH = 14$

$[OH^-] = (K_b \text{ x } c_{ob})^{1/2}$ $\quad pOH = -\log[OH^-]$ $\quad pH = pK_a + \log(\text{base/acid})$