

## EXERCISE 8

Chem 100

(Due date \_\_\_\_\_)

10 points

Name \_\_\_\_\_  
(last) (first)

Lecture Section # \_\_\_\_\_ Instructor \_\_\_\_\_

A. For each of the following aqueous solutions, write the theoretical pH in the blank.

1. 0.01 M HBr \_\_\_\_\_

4. 0.00001 M HClO<sub>4</sub> \_\_\_\_\_

2. 0.001 M HNO<sub>3</sub> \_\_\_\_\_

5. 0.0001 M NaOH \_\_\_\_\_

3. 0.1 M LiOH \_\_\_\_\_

6. 0.001 M KCl \_\_\_\_\_

B. Which of the following pairs could form a buffer system. Write "yes" or "no" in the blank at the right.

1. HNO<sub>2</sub> and NaNO<sub>2</sub>

1. \_\_\_\_\_

2. KOH and KI

2. \_\_\_\_\_

3. HCl and NaCl

3. \_\_\_\_\_

4. NH<sub>3</sub> (NH<sub>4</sub>OH) and NH<sub>4</sub>Cl

4. \_\_\_\_\_

5. HF and NaF

5. \_\_\_\_\_

6. HC<sub>2</sub>H<sub>3</sub>O<sub>2</sub> and HNO<sub>3</sub>

6. \_\_\_\_\_

C. Electrolytes. Write the correct letter in the blank to the right of the compound.

(A) strong electrolyte

(B) weak electrolyte

(C) nonelectrolyte

1. Ba(OH)<sub>2</sub> \_\_\_\_\_

8. CaSO<sub>4</sub> \_\_\_\_\_

2. ZnO \_\_\_\_\_

9. HF \_\_\_\_\_

3. C<sub>6</sub>H<sub>12</sub> \_\_\_\_\_

10. LiOH \_\_\_\_\_

4. HNO<sub>3</sub> \_\_\_\_\_

11. C<sub>6</sub>H<sub>12</sub>O<sub>6</sub> \_\_\_\_\_

5. NH<sub>3</sub> \_\_\_\_\_

12. Sr(OH)<sub>2</sub> \_\_\_\_\_

6. HCl \_\_\_\_\_

13. HClO<sub>3</sub> \_\_\_\_\_

7. (NH<sub>4</sub>)<sub>2</sub>S \_\_\_\_\_

14. Co(NO<sub>3</sub>)<sub>2</sub> \_\_\_\_\_