

Name: \_\_\_\_\_ Per \_\_\_\_\_

## Acids and Bases

### Practice Sheet # 39

1. List three properties that are unique to acids:

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_

2. List three properties that are unique to bases:

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_

3. Circle the substances that are ACIDS and UNDERLINE the BASES (8 points)

KBr    KOH    HBr    H<sub>2</sub>O    HNO<sub>3</sub>    NaOH    NaCl    H<sub>2</sub>SO<sub>4</sub>

4. All the acids you circled will release \_\_\_\_\_ in water. (1 point)

5. All of the bases you underlined will release \_\_\_\_\_ in water. (1 point)

6. If a solution has  $[H^+] = 5.7 \times 10^{-9} \text{ M}$

- a. What is the pH? (1 point)
  
- b. What is the pOH? (1 point)
  
- c. Is this solution acidic or basic? (1 point)

7. If a solution has a  $[OH^-] = 3.3 \times 10^{-8} \text{ M}$

- a. What is the  $[H^+]$ ? (1 point)
  
- b. What is the pH? (1 point)
  
- c. Is this solution acidic or basic? (1 point)

8. Complete the following table. Give the equation used to solve each problem

$[H^+]$	pH	pOH	$[OH^-]$	Acid, Basic or Neutral
0.030 M				
		4.62		
	2.72			
			$1.6 \times 10^{-6} \text{ M}$	
				Neutral
$8.0 \times 10^{-5} \text{ M}$				
	12.50			
		13.10		
			$8.7 \times 10^{-3} \text{ M}$	

9. Determine the pH and the pOH for each of the following solutions.

a. 0.34 M HBr

b. 0.42 M KOH

c. 0.030 M  $H_2SO_4$

d. 0.010 M  $Ba(OH)_2$