

Name: _____

Period: _____

Acids and Bases Exam Review

1) What is the pH of a solution with an $[H^+] = 3.56 \times 10^{-4}$? Is it acidic or basic?

Helpful Formulas!	
$pH + pOH = 14$	$[H^+][OH^-] = 1 \times 10^{-14}$
$-\log[H^+] = pH$	$-\log[OH^-] = pOH$
$10^{(-pH)} = [H^+]$	$10^{(-pOH)} = [OH^-]$

2) What is the pH of a solution with an $[OH^-] = 6.56 \times 10^{-12}$? Is it acidic or basic?

5) What is the $[OH^-]$ if pOH is 4.28? Is it acidic or basic?

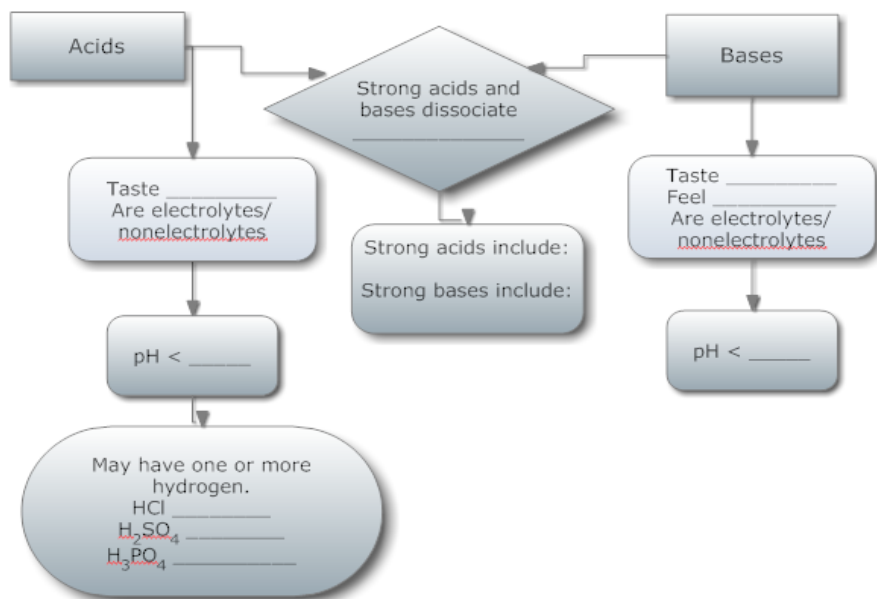
3) What is the pH if the pOH is 8.4? Is it acidic or basic?

6) What is the $[H^+]$ if the pOH is 12.2? Is it acidic or basic?

4) What is the $[H^+]$ if the pH is 5.65? Is it acidic or basic?

7) What is the $[H^+]$ if the $[OH^-] = 5.65 \times 10^{-2}$? Is it acidic or basic?

Acids and Bases: A summary



Which picture below correctly describes the behavior of a strong acid? ○● = HF acid

The four diagrams show different levels of dissociation of HF acid (represented by a small circle and a larger circle):
1. Top-left: Two HF molecules (one small, one large circle) are shown.
2. Top-right: Four HF molecules are shown.
3. Bottom-left: A mixture of HF molecules and dissociated ions (one small, one large circle).
4. Bottom-right: A mixture of HF molecules and dissociated ions, with a higher proportion of ions than the bottom-left diagram.

Indicators - what color each indicator would turn for the following pH values?

pH	4.2	1.9	11.8	7.00	14.0
Phenolphthalein					
Bromothymol blue					
Red litmus					

Theories of Acids and Bases

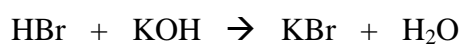
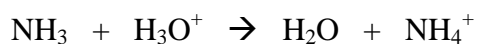
Bronsted – Lowry

Acid: Hydrogen ion _____

Base: Hydrogen ion _____

Lewis Acids and Bases

Label as Acid, Base, CA, CB



RICE DIAGRAMS

A 0.500M solution of a weak acid, HCN, is only partially ionized. The K_a is 6.2×10^{-10} for this acid.



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What is the $[\text{H}^+]$? _____

What is the pH? _____

What is the pOH? _____

The weak base, NH_3 , has a K_b of 1.8×10^{-5} . Calculate the pH of a 0.35 M ammonia solution.



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What is the $[\text{OH}^-]$? _____

What is the pOH? _____

What is the pH? _____