Acids & Bases Calculations Practice Worksheet

Directions: Solve the following pH calculations. Write the <u>formula</u>, <u>plug numbers into formula</u>, & give answer with correct <u>units</u> and <u>significant figures</u>.

1. If the pH of a solution is 10.3, what is the [H+] concentration?

2. If the [H+] is 2.1×10^{-12} M $HClO_4$, what is the pH? Is the solution ACIDIC, BASIC, or NEUTRAL?

3. Calculate the pOH if the [OH–] concentration is 5.9×10^{-1} M? Is the solution ACIDIC, BASIC, or NEUTRAL?

4. What is the pH of a 0.033 M KOH solution?

5. What is the pH of an aqueous solution with a hydroxide ion concentration of 1.8×10^{-3} M?

6. What is the pH of an aqueous solution with a hydroxide ion concentration of 1.2×10^{-6} M?

7. What is the hydrogen ion concentration of a solution with a pH = 8.25?

8. What is the pH of a 0.235 M $Ba(OH)_2$ solution?

9. Determine the concentration of [OH−] ions in an aqueous solution where the pH = 5.22.

10. What is the hydroxide ion concentration in an aqueous solution with a hydrogen ion concentration of 2.70×10^{-2} M?

11. Calculate the pH of a solution that is 0.147M HCl?

12. Complete the table below.

pH	[H⁺]	[OH⁻]	pOH	Acid / Base
	1×10^{-3} M			
		1×10^{-8} M		
6				
			2	
	2.3×10^{-10} M			
		8.5×10^{-1} M		
	6.9×10^{-4} M			
		5.1×10^{-11} M		