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Name:	Date:	Period:	Seat #:
Classify the following salts as acidic, basic	or neutral	Remember $(K_w =]$	K _a x K _b)

Salt	Acidic, basic, or neutral	Salt	Acidic, basic, or neutral
[1] Ba(ClO ₄) ₂		[12] K ₂ CO ₃	
[2] NH ₄ NO ₂ K _a for NH ₄ ⁺ = 5.6 x10 ⁻¹⁰ ; K _b for NO ₂ ⁻ = $2.2x10^{-11}$		[13] CsOH	
[3] AgOH		[14] HClO ₄	
[4] H ₂ CO ₃		[15] NH ₄ C ₂ H ₃ O ₂	
[5] NH4Cl		[16] NaClO	
$[6] Ca(NO_3)_2$		[17] KClO ₄	
[7] NaNO ₂		[18] NH ₄ Br	
[8] $Zn(NO_3)_2$		[19] NH ₄ F	
[9] K ₂ CO ₃		[20] KC ₂ H ₃ O ₂	
[10] Fe(ClO ₄) ₂		[21] NaF	
[11] NH ₄ C ₆ H ₆ COO K _a for NH ₄ ⁺ = 5.6E ⁻¹⁰ ; K _a for C ₆ H ₆ COOH = $6.5E^{-5}$		[22] CH ₃ NH ₃ NO ₂ K _b for CH ₃ NH ₂ = $4.4E^{-4}$; K _b for NO ₂ = $2.2E^{-11}$	

For all Acidic and Basic solutions, write the reaction and balance it, that is causing the solution to be acidic or basic. Be sure • to include the problem number from above.

1. What is the pH of a 0.100 M solution of sodium acetate? $K_b = 5.65 \times 10^{-10}$. **8.876**

2.	What is the pH of a 0.0500 M solution of KCN? $K_b = 2.1 \times 10^{-5}$. 11.01
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3. Find the pH of a 0.30 M solution of sodium benzoate, C_6H_5COONa . The K_b for $C_6H_5COO^-$ (benzoate ion) is 1.55 x 10^{-10} . 8.83

4. Find the pH of a 0.20 M solution of sodium propionate (C_2H_5COONa), where the K_a of propionic acid = 1.34 x 10⁻⁵. 9.09

5.	What is the pH of a 0.0500 M solution of ammonium chloride, NH ₄ Cl. K _a = 5.65 x 10 ⁻¹⁰ . 5.274
6.	What is the pH of a 0.100 M solution of methyl ammonium chloride (CH ₃ NH ₃ Cl). K _a of the methyl ammonium ion (CH ₃ NH ₃ ⁺ = 2.70×10^{-11} . 5.784
7.	Given the pK _a for ammonium ion is 9.26, what is the pH of 1.00 L of solution which contains 5.45 g of NH ₄ Cl (the molar mass of NH ₄ Cl = 54.5 g mol ⁻¹ .) 5.13