**Chemistry 3.6 AS 91392** Demonstrate understanding of equilibrium principles in aqueous systems



Writing Excellence answers to **Buffer pH Calculation** questions

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| **Buffer pH Calculation QUESTION** | |
| **Question:**  The following two solutions from part (a) are mixed to form a buffer solution: 20.0 mL of 1 mol L–1 CH3NH3Cl and 30.0 mL of 1 mol L–1 CH3NH2  Calculate the pH of the resultant buffer solution. p*K*a (CH3NH3+) = 10.64  Kw = 1 x 10-14 | |
| **ANSWER** | |
| **1.** Write out Ka expression |  |
| **2.** rearrange expression to calculate [H3O+] |  |
| **3.** calculate [CH3NH2]  [CH3NH2]*= v(* CH3NH2) x c( CH3NH2)  total volume  *3sgf and units* |  |
| **4.** calculate[CH3NH3+]  [CH3NH3+]*= v(* CH3NH3+) x c( CH3NH3+)  total volume  *3sgf and units* |  |
| **5.** calculate  *pH*  *pH = pKa + log [A-]*  *[HA]*  *3sgf* |  |

NOTE: The white column is how your answer would appear on your test paper so make sure you **write out complete sentences**. The grey area is just to help you structure your answer and would not appear in the question.