**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.