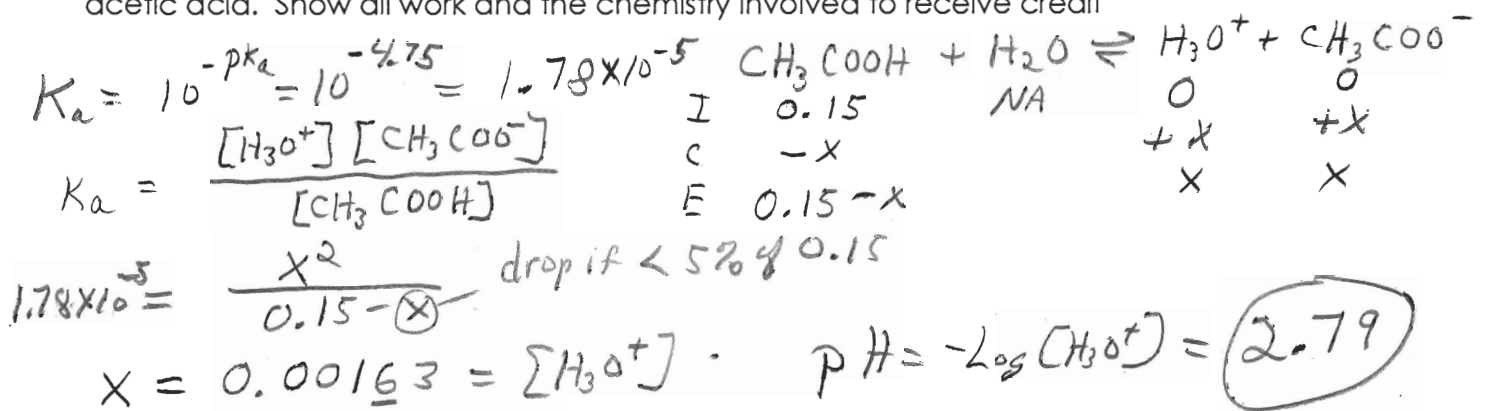
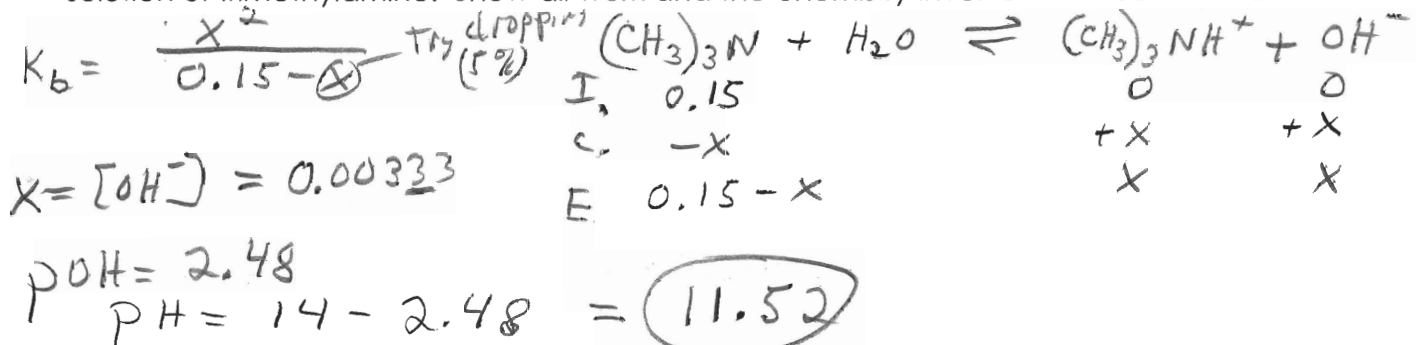


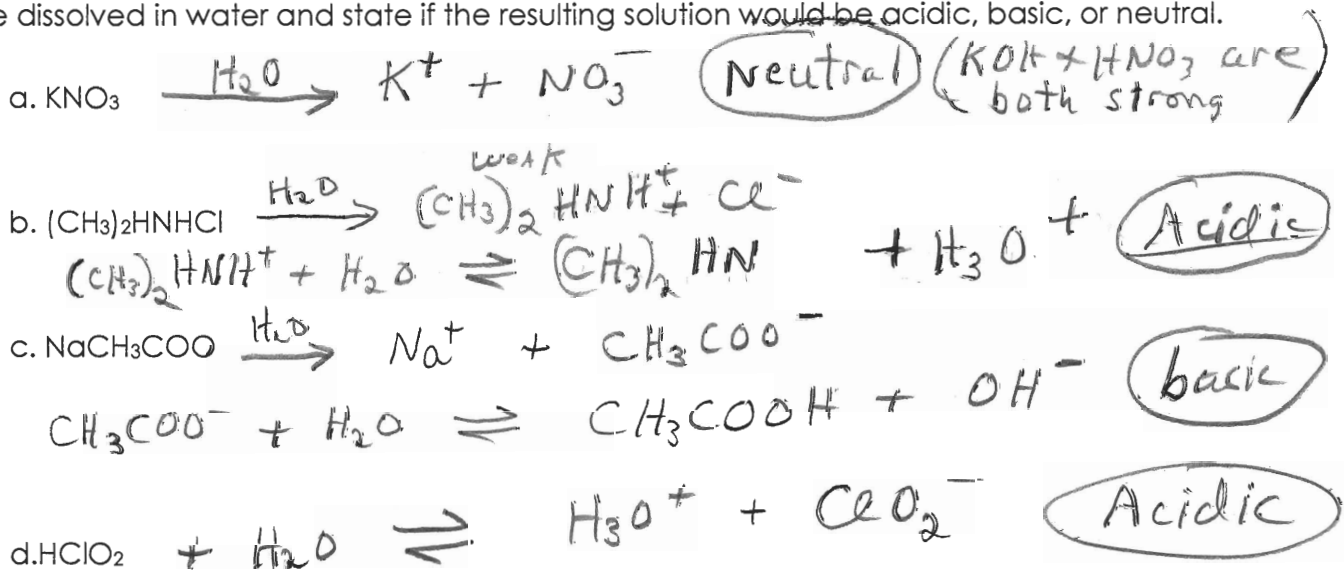
1. (8 Pts) Acetic acid CH_3COOH has a pK_a of 4.75 determine the pH of a 0.15 M solution of acetic acid. Show all work and the chemistry involved to receive credit



2. (8 Pts) Trimethylamine $(\text{CH}_3)_3\text{N}$ has a K_b of 7.4×10^{-5} . Determine the pH of a 0.15 M solution of trimethylamine. Show all work and the chemistry involved to receive credit.



3. (8 Pts) Write out the chemistry that would occur when each of the acids, bases, or salts are dissolved in water and state if the resulting solution would be acidic, basic, or neutral.



4. (1 Pts) If the K_a of an acid is 1.2×10^{-5} , what is the K_b ?

$$K_a K_b = K_w$$

$$K_b = \frac{K_w}{1.2 \times 10^{-5}} = \boxed{8.3 \times 10^{-10}}$$