

Chapter 9 Review Problems

1. Vinegar is essentially a solution of acetic acid, with a typical formal concentration of $F = 0.83 \text{ M}$. (Sometimes this is written as 0.83 F.) Find (a) the pH and (b) the fraction of ionization α of a sample of vinegar. (K_a of CH_3COOH is 1.8×10^{-5} .)

2. Ammonia is the prototypical weak base. By sheer coincidence, its K_b value is the same as acetic acid's K_b value (to two significant figures): 1.8×10^{-5} . Find (a) the pH and (b) the fraction of ionization α of a solution of ammonia with $F = 0.0083$ M. (Check any approximations by "eyeball.")