

Chapter 16 Practice Quiz C

Name: _____

Question 1. (1 point) The K_a of a weak acid is 1.5×10^{-8} . Calculate the K_b of its conjugate base.

(Answer: 6.7×10^{-7})

Question 2. (2 points) Using your knowledge of acid strengths and the relationship between K_a and K_b of the conjugate base, indicate which anion (NO_2^- or NO_3^-) is the stronger base. Explain your answer.

Question 3. (2 points) Write a reaction showing the bicarbonate ion (HCO_3^-) functioning as a base in a reaction with water.

Question 4. (2 points) Which acid is stronger $HClO_3$ or $HClO_4$? Explain your answer.

Question 5. (1 point) Predict whether a NaF solution is acidic, basic or neutral. In each case, explain your answer using chemical equations.

Question 6. (2 points) Calculate the pH of a 6.00×10^{-3} M solution of HCN . The K_a of HCN is 4.9×10^{-10} . Show all your work. (Answer: 5.77)