PRACTICE: WEAK ACID-BASE EQUILIBRIA CALCULATIONS 1 EXAMPLE 1: What is the original molarity of a solution of weak acid with a K_a of 4.7 x 10⁻³ and pH of 4.12 at 25 °C? EXAMPLE 2: You are seeking to identify an unknown monoprotic acid by determining its K_a value. A 6.05 x 10⁻² M solution of this unknown monoprotic acid has a pH of 2.122. Determine the K_a of this unknown acid?

a) 4.47 x 10⁻⁴

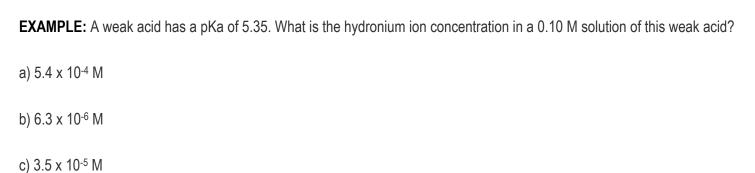
b) 9.42 x 10⁻⁴

c) 2.85 x 10⁻²

d) 1.08 x 10⁻³

e) 3.58 x 10⁻¹

PRACTICE: WEAK ACID-BASE EQUILIBRIA CALCULATIONS 2





PRACTICE: The pH of an aqueous 0.10 M nitrite ion is 8.17. What is the base dissociation constant of the base?

- a) 4.6 x 10⁻¹⁶
- b) 2.2 x 10⁻¹¹
- c) 1.6 x 10⁻⁶
- d) 1.6 x 10⁻⁵
- e) 1.2 x 10⁻³