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**pH of a weak acid solution**

Calculate the pH of a 0.200 M solution of nitrous acid,  $\text{HNO}_2$ .  $K_a$  of  $\text{HNO}_2 = 4.0 \times 10^{-4}$ .

**Salt solutions**

A solution of  $\text{NaNO}_2$  will be \_\_\_\_\_ (acidic, basic, neutral).

Write the *net* equation for the equilibrium involved when  $\text{NaNO}_2$  dissolves in water.

Write the equilibrium expression for the above equation. Should this be labeled  $K_c$ ,  $K_a$ ,  $K_b$ ,  $K_{eq}$ ?

Calculate the pH of a 0.100 M solution of  $\text{NaNO}_2$ .

**Acid-Base Neutralization**

Write the balanced net equation for:

A solution of sulfurous acid is added to a suspension of magnesium hydroxide