① pH = ? $[HNO_2] = 1.0\,M$ $HNO_2 \rightleftharpoons H^+ + NO_2^-$

$K_a = 6.0 \times 10^{-4}$ $[NaNO_2] = 1.00\,M = [NO_2^-]$

$$K_a = \frac{[H^+][NO_2^-]}{[HNO_2]} \qquad [H^+] = K_a\left(\frac{[HNO_2]}{[NO_2^-]}\right)$$

$$[H^+] = (6.0\times10^{-4})\left(\frac{1.0\,M}{1.0\,M}\right)$$

$$[H^+] = 6.0\times10^{-4}$$

$$pH = -\log[H^+] = \boxed{3.22}$$

② pH = ? $[HF] = 0.60M$ $HF \rightleftharpoons H^+ + F^-$

$K_a = 6.9\times10^{-4}$ $[HF] = [F^-] = 1.00M$

$$[H^+] = K_a\left(\frac{[HF]}{[F^-]}\right)$$

$$[H^+] = 6.9\times10^{-4}\left(\frac{0.60M}{1.00M}\right)$$

$$[H^+] = 4.14\times10^{-4}$$

$$pH = -\log[H^+] = \boxed{3.38}$$