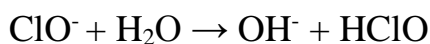
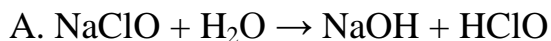


## Answer to the Question 63763

A. Clorox bleach is mainly made of 5.25% NaClO which amounts to a concentration of approximately 0.704 M.

$K_b = 3.4 \cdot 10^{-7}$  what is the pH of this solution ?



$$K_b = \frac{[\text{HClO}] \cdot [\text{OH}^-]}{[\text{NaClO}]} = \frac{[\text{OH}^-]^2}{[\text{NaClO}]}$$

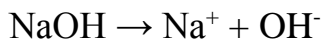
$$[\text{OH}^-] = \sqrt{K_b \cdot [\text{NaClO}]}$$

$$[\text{OH}^-] = \sqrt{3.4 \cdot 10^{-7} \cdot 0.704} = 4.89 \cdot 10^{-4}$$

$$\text{pH} = 14 + \lg[\text{OH}^-]$$

$$\text{pH} = 14 - 3.31 = 10.69$$

B. what would be the concentration of a solution of NaOH that would have the same pH as the NaClO solution in part a?



$$[\text{NaOH}] = [\text{OH}^-] = 4.89 \cdot 10^{-4}$$