

1. In an Arrhenius acid-base context, the compounds HCl and NaOH, when dissolved in water, are which of the following, respectively?
- A. acid and acid B. base and base C. acid and base D. base and acid
2. The name of H_2SO_4 is
- A. sulfonic acid B. sulfurous acid C. hydrosulfuric acid D. sulfuric acid
3. The correct formula of acetic acid is
- A. $\text{H}_2\text{C}_2\text{H}_3\text{O}_2$ B. $\text{HC}_2\text{H}_3\text{O}_2$ C. $\text{H}_3\text{C}_2\text{H}_3\text{O}_2$ D. $\text{H}_2\text{C}_2\text{H}_3\text{O}$
4. What is the pH of a solution with $[\text{H}_3\text{O}^+] = 7 \times 10^{-3} \text{ M}$?
- A. -11 B. 11 C. -2.2 D. 2.2
5. What is the conjugate base of HCO_3^- ?
- A. H^+ B. CO_3^{2-} C. H_2CO_3 D. OH^-
6. What is the $[\text{H}_3\text{O}^+]$ in a solution with $[\text{OH}^-] = 2.8 \times 10^{-3} \text{ M}$?
- A. $3.6 \times 10^{-12} \text{ M}$ B. $6.0 \times 10^{-13} \text{ M}$ C. $6.6 \times 10^{-12} \text{ M}$ D. $8.8 \times 10^{-13} \text{ M}$
7. Which of the following is considered a weak acid?
- A. HClO_4 B. HNO_3 C. H_2SO_4 D. HF
8. The formula of barium hydroxide is
- A. $\text{Ba}(\text{OH})_2$ B. BaOH C. BOH D. $\text{B}(\text{OH})_2$
9. Which of the following reactions represents an acid-base neutralization reaction?
- A. $\text{HCl} + \text{H}_2\text{O}$ B. $\text{HCl} + \text{NaOH}$ C. $\text{NaOH} + \text{H}_2\text{O}$ D. $\text{HCl} + \text{HNO}_3$
10. The response of a $\text{H}_2\text{PO}_4^-/\text{HPO}_4^{2-}$ buffer to the addition of H_3O^+ ions is to produce more _____.
- A. HPO_4^{2-} B. $\text{H}_2\text{PO}_4^{2-}$ C. H_2PO_4^- D. H_3PO_4

Answers

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| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| C | D | B | D | B | A | D | A | B | C |