

Name: _____

Date: _____ Per: _____

Chemistry
Assessment #22: Acids & Bases PRACTICE

For each of the following questions or statements, select the most appropriate response and write its letter on the answer line:

- _____ 1. Which of the following is a property of acids?
- A. have a bitter taste
 - B. react with metals
 - C. turn litmus paper blue
 - D. accept hydrogen ions
- _____ 2. An aqueous solution contains 0.10 M NaOH. This solution is:
- A. concentrated
 - B. basic
 - C. neutral
 - D. acidic
- _____ 3. In basic solution:
- A. $[\text{H}_3\text{O}^+] < [\text{OH}^-]$
 - B. $[\text{H}_3\text{O}^+] = [\text{OH}^-]$
 - C. $[\text{H}_3\text{O}^+] > [\text{OH}^-]$
 - D. $[\text{OH}^-] = 0 \text{ M}$
- _____ 4. Nitric acid is a strong acid. This means that:
- A. HNO_3 does not dissociate at all when it is dissolved in water
 - B. HNO_3 dissociates completely to $\text{H}^+_{(aq)}$ and $\text{NO}_3^-_{(aq)}$ when it dissolves in water
 - C. HNO_3 produces a gaseous product when it is neutralized
 - D. HNO_3 cannot be neutralized by a weak base
- _____ 5. A neutralization reaction between NH_4OH and HBr will form:
- A. NH_4Br and H_2O
 - B. NH_4O and H_2Br
 - C. BrOH and NH_5
 - D. NH_3 , Br_2 , H_2 and O_2
- _____ 6. What is the pH of an aqueous solution in which $[\text{H}^+]$ is 0.0025 M?
- A. 2.25
 - B. 2.50
 - C. 2.60
 - D. 3.40

- _____ 7. What is the concentration of hydronium ions in a solution at 25°C with pH = 4.282?
- A. 5.22×10^{-5}
 - B. 1.66×10^{-4}
 - C. 1.92×10^{-3}
 - D. 4.28×10^{-2}
- _____ 8. What is the pH of an aqueous solution that contains 3.98×10^{-9} M H^+ ?
- A. 8.40
 - B. 7.00
 - C. 5.60
 - D. 3.98
- _____ 9. When hydroiodic acid (HI) is added to water, hydronium ions and iodide ions are formed. Which of the following statements is true?
- A. hydronium acts as an acid; iodide acts as a base.
 - B. iodide acts as an acid; hydronium acts as a base.
 - C. hydronium acts as a conjugate acid; iodide acts as a conjugate base.
 - D. iodide acts as a conjugate acid; hydronium acts as a conjugate base.
- _____ 10. In a laboratory titration, 25.0 mL of NaOH is completely neutralized by 14.2 mL of 0.500 M HCl. What is the concentration of the NaOH solution?
- A. 0.284 M
 - B. 0.880 M
 - C. 1.14 M
 - D. 3.52 M

Answers:

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