CHEM 1310 General Chemistry: Acids and Bases

1. What is an acid?

A. A substance that increases the concentration of hydronium ions in a solution
B. A substance that decreases the concentration of hydronium ions in a solution
C. A substance that increases the concentration of hydroxide ions in a solution
D. A substance that decreases the concentration of hydroxide ions in a solution

2. What is a base?

A. A substance that increases the concentration of hydronium ions in a solution
B. A substance that decreases the concentration of hydronium ions in a solution
C. A substance that increases the concentration of hydroxide ions in a solution
D. A substance that decreases the concentration of hydroxide ions in a solution

3. Which of the following is an example of an acid?

A. HCl
B. NaOH
C. NH3
D. H2O

4. Which of the following is an example of a base?

A. HCl
B. NaOH
C. NH3
D. H2O

5. What is the pH of a solution with a [H3O+] concentration of 1.0 x 10-7 M?

A. 7
B. 6
C. 5
D. 4

6. What is the pH of a solution with a [H3O+] concentration of 1.0 x 10-3 M?

A. 3
B. 2
C. 1
D. 0

7. What is the pH of a solution with a [H3O+] concentration of 1.0 x 10-1 M?

A. 1
B. 2
C. 3
D. 4

8. What is the pH of a solution with a [H3O+] concentration of 1.0 M?

A. 0
B. 1
C. 2
D. 3

9. What is the pH of a solution with a [H3O+] concentration of 1.0 x 101 M?

A. 4
B. 3
C. 2
D. 1

10. What is the pH of a solution with a [H3O+] concentration of 1.0 x 103 M?

A. 6
B. 5
C. 4
D. 3

11. What is the pH of a solution with a [H3O+] concentration of 1.0 x 105 M?

A. 8
B. 7
C. 6
D. 5

12. What is the pH of a solution with a [H3O+] concentration of 1.0 x 107 M?

A. 10
B. 9
C. 8
D. 7

13. What is the pH of a solution with a [H3O+] concentration of 1.0 x 10-9 M?

A. 9
B. 8
C. 7
D. 6

14. What is the pH of a solution with a [H3O+] concentration of 1.0 x 10-11 M?

A. 11
B. 10
C. 9
D. 8

15. What is the pH of a solution with a [H3O+] concentration of 1.0 x 10-13 M?

A. 13
B. 12
C. 11
D. 10

16. What is the pH of a solution with a [H3O+] concentration of 1.0 x 10-15 M?

A. 15
B. 14
C. 13
D. 12

17. What is the pH of a solution with a [H3O+] concentration of 1.0 x 10-17 M?

A. 17
B. 16

C. 15
D. 14

18. What is the pH of a solution with a [H3O+] concentration of 1.0 x 10-19 M?

A. 19
B. 18
C. 17
D. 16

19. What is the pH of a solution with a [H3O+] concentration of 1.0 x 10-21 M?

A. 21
B. 20
C. 19
D. 18

20. What is the pH of a solution with a [H3O+] concentration of 1.0 x 10-23 M?

A. 23
B. 22
C. 21
D. 20

21. What is the pH of a solution with a [H3O+] concentration of 1.0 x 10-25 M?

A. 25
B. 24
C. 23
D. 22

22. What is the pH of a solution with a [H3O+] concentration of 1.0 x 10-27 M?

A. 27
B. 26
C. 25
D. 24

23. What is the pH of a solution with a [H3O+] concentration of 1.0 x 10-29 M?

A. 29
B. 28
C. 27
D. 26

24. What is the pH of a solution with a [H3O+] concentration of 1.0 x 10-31 M?

A. 31
B. 30
C. 29
D. 28

25. What is the pH of a solution with a [H3O+] concentration of 1.0 x 10-33 M?

A. 33
B. 32
C. 31
D. 30

1. A
2. D
3. A
4. B
5. A
6. B
7. C
8. D
9. A
10. B
11. C
12. D
13. A
14. B
15. C
16. D
17. A
18. B
19. C
20. D
21. A
22. B
23. C
24. D
25. A