Chem.G11-Q3W2-Acids and bases- Test

Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ 1. Acids produce _____ in order to conduct electricity in water.
a. H^+
b. H_2O
c. H_3O^+
d. OH^-

____ 2. An example of a polyprotic acid is _____.
a. HCl
b. H_2SO_4
c. HCN
d. $HC_2H_3O_2$

____ 3. Oxides of nitrogen and sulfur are _____.
a. acids
b. bases
c. basic anhydrides
d. acidic anhydrides

____ 4. One physical property of acids is a _____.
a. presence of hydrogen
b. slippery feel
c. pink color
d. sour taste

____ 5. The weak acid in the following list is _____.
a. sulfuric acid
b. nitric acid
c. acetic acid
d. hydrochloric acid

____ 6. The top industrial chemical produced in the United States for many years has been _____.
a. oxygen
b. hydrochloric acid
c. ammonia
d. sulfuric acid

____ 7. Ammonia is considered to be a base because it _____.
a. loses hydroxide ions in water
b. contains the hydroxide ion
c. contains hydrogen
d. accepts hydrogen ions

____ 8. Conductivity of an acid or a base in water is affected by all of the following except _____.
a. pH
b. an indicator
c. strength
d. molarity

____ 9. A piece of blue litmus paper placed into water through which carbon dioxide gas is bubbled will _____.
a. remain blue
b. turn pink
c. lose its color
d. show no change

____ 10. An acidic solution would have a pH of _____.
a. 7 or above
b. less than 7
c. more than 7
d. 7 or below

____ 11. Acids react with carbonates to produce _____.
a. a hydronium ion
b. carbon dioxide
c. hydrogen
d. a base

Completion
Complete each statement.

A. Ph
B. ionization
C. hydronium ion
D. acid
E. base
F. strong acid
G. strong base
H. weak acid
I. weak base
J. acidic anhydrides
K. basic anhydride
L. neutralization reaction

12. An acid that ionizes to only a slight degree in water is a(n) _____.
13. A base that dissociates completely in water solution is known as a(n) _____.
14. A(n) _____ is a substance that produces hydroxide ions in water.
15. A(n) _____ is another name for a metallic oxide.
16. A substance that produces hydronium ions when it dissolves in water is said to be a(n) _____.
17. _____is a mathematical scale by which the concentration of hydronium ions in solution is expressed.
18. The combination of a water molecule and a hydrogen ion is a(n) _____.
19. Nonmetal oxides are called _____ because they react with water to form acids.
20. A(n) _____ is a base that does not ionize to a very great extent in water.
21. A(n) _____ is an acid that dissociates completely in water solution.
22. The reaction between an acid and a base is a(n) _____.
23. During the process known as _____, a covalent compound breaks apart into ions.

Matching

The graph in Figure 14-1 shows data collected when the probe of a pH meter was inserted into each of seven beakers containing the solutions described below. Match each of the solutions with a correct graph line.

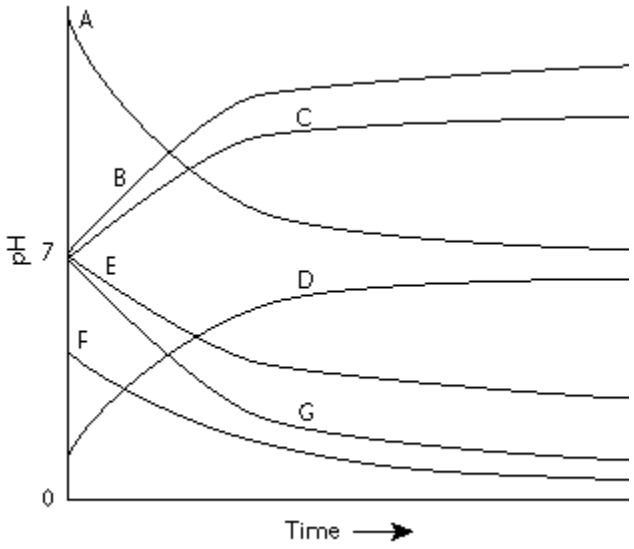

Figure 14-1

____ 24. 10 mL of 1*M* NaOH is added to 10 mL of 1*M* HCl a few drops at a time.
____ 25. Hydrogen chloride gas is slowly bubbled into distilled water.
____ 26. Pellets of sodium hydroxide are dissolved in distilled water.
____ 27. 10 mL of 1*M* acetic acid is added to 10 mL of 1*M* sodium hydroxide a few drops at a time.
____ 28. 1 mL of 1*M* HCl is added to 1*M* acetic acid a few drops at a time.
____ 29. Carbon dioxide gas is slowly bubbled into distilled water.
____ 30. Ammonia gas is slowly bubbled into distilled water.

Match each of the following equations with the letter that tells what the pH of the final solutions that form would be.

a. low (about 1-2)
b. moderately low (about 5-6)
c. neutral (7)
d. moderately high (about 8-9)
e. high (about 13-14)

____ 31. $H_2O \rightarrow$
____ 32. $HCl + H_2O \rightarrow$
____ 33. $NH_3 + H_2O \rightarrow$
____ 34. $NaOH + H_2O \rightarrow$
____ 35. $H_2O + CO_2 \rightarrow$
____ 36. $NaOH + HCl \rightarrow$

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