

Chapter 7 Problems - Acids, Bases and Concentrations

1. Acid solutions have pH values of:
 - a. less than 7
 - b. 7
 - c. greater than 7
 - d. none of the above
2. Aqueous bases have elevated concentrations of;
 - a. H^+
 - b. OH^-
 - c. Na^+
 - d. all of the above
 - e. none of the above
3. A pH change from 4 to 3 involves
 - a. a 10 fold increase in the concentration of acid
 - b. a 10 fold decrease in the concentration of acid
 - c. a doubling of the acidity
 - d. a 10 fold increase in the concentration of base
 - e. none of the above
4. Neutral water has:
 - a. concentrations of H^+ and OH^- of 1 M
 - b. equal concentrations of H^+ and OH^-
 - c. a pH of 1
 - d. a pH of 14
 - e. none of the above
5. About 5% of vinegar is acetic acid. Acetic acid is a:
 - a. strong acid
 - b. a strong base
 - c. a neutral compound
 - d. none of the above
6. A neutralization reaction below is:
 - a. $N_2 + O_2 = 2 NO$
 - b. $HCl + NaOH = NaCl + H_2O$
 - c. $H_2O = H^+ + OH^-$
 - d. none of the above

7. Which statement is true about ammonia (NH_3)?
- because it has hydrogens, it is an acid
 - when added to water, the pH is less than 7
 - when added to water the pH is greater than 7
 - ammonia is a solid at room temperature
 - none of the above
8. If the hydrogen ion concentration is 1×10^{-7} M, then:
- the solution is strongly acidic
 - the hydroxide ion concentration is 1×10^{-7} M
 - the pH is 1
 - none of the above
9. A solution that has a sodium chloride concentration of 1 molar is prepared by:
- dissolving 1 mole of sodium chloride in 1 L of water
 - dissolving 1 mole in enough water to make 1 L of solution
 - adding 1 of your teeth to a salt solution
 - none of the above