Quiz 9A

Question 1. At 26 °C, the solubility of sodium chloride is 36 g/100 mL of solution. How would you describe a solution of 10 g of sodium chloride in 100 mL of solution at room temperature (2 points)?

; Therefore the solution is unsaturated.

Question 2. Indicate whether each of the following compounds dissolves in water to give ions, molecules or both (3 points).

1. NaCl, a strong electrolyte \_\_\_\_\_\_\_\_ions\_\_\_\_\_\_\_\_\_\_
2. CH3CH2OH, a nonelectrolyte \_\_\_\_\_\_\_\_molecules\_\_\_\_\_\_\_
3. H2CO3, a weak electrolyte \_\_\_\_\_\_\_\_both\_\_\_\_\_\_\_\_\_\_

Question 3. How many grams of sodium hydroxide, NaOH, are needed to make a 250.0 mL solution that is 0.536 M (5 points)?

Question 4. What volume of concentrated sulfuric acid solution (18 M) is needs to make 2.0 L of 1.5 M dilute solution (5 points)?

V1 = ?

M1 = 18 M

V2 = 2.0 L

M2 = 1.5 M

Question 5. If 29.54 mL of a barium hydroxide solution completely reacts with 12.67 mL of a 0.328 M hydrochloric acid solution, what is the molarity of the barium hydroxide solution? Given the unbalanced equation (5 points):

Ba(OH)2 (aq) + 2 HCl (aq) 🡪 BaCl2 (aq) + 2 H2O (l)

Quiz 9B

Question 1. What volume of concentrated nitric acid solution (16 M) is needs to make 0.55 L of 6.0 M dilute solution (5 points)?

V1 = ?

M1 = 16 M

V2 = 0.55 L

M2 = 6.0 M

Question 2. At 26 °C, the solubility of sodium chloride is 36 g/100 mL of solution. How would you describe a solution of 15 g of sodium chloride in 100 mL of solution at room temperature (2 points)?

; Therefore the solution is unsaturated.

Question 3. How many grams of potassium chloride, KCl, are needed to make a 50.00 mL solution that is 0.153 M (5 points)?

Question 4. If 15.44 mL of a calcium hydroxide solution completely reacts with 18.01 mL of a 0.125 M nitric acid solution, what is the molarity of the calcium hydroxide solution? Given the unbalanced equation (5 points):

Ca(OH)2 (aq) + 2 HNO3 (aq) 🡪 Ca(NO3)2 (aq) + 2 H2O (l)

Question 5. Indicate whether each of the following compounds dissolves in water to give ions, molecules or both (3 points).

1. KNO3, a soluble salt \_\_\_\_\_\_\_\_ions\_\_\_\_\_\_\_\_\_\_
2. HF, a weak electrolyte \_\_\_\_\_\_\_\_both\_\_\_\_\_\_\_\_\_\_
3. Glucose, a nonelectrolyte \_\_\_\_\_\_\_\_molecules\_\_\_\_\_\_\_