Unit 7 Quiz Preparation NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

DATE\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_PERIOD\_\_\_\_\_\_\_

1. What is the 3 word solubility rule?
2. How is salt like water?
3. What is the molarity of a solution made by dissolving 26.42 g of ammonium sulfate in enough water to make 50.00 ml of solution?
4. Determine the number of grams of solute needed to make solutions of the following volumes and concentrations:
5. 2.00 L of 3.5 M solution of hydrochloric acid
6. 1.5 L of a 0.75 M solution of calcium nitrate
7. A solution is prepared by dissolving 52.1 g of sucrose (C12H22O11) in 275 g water. What is the molality of the solution?
8. How many kilograms of water must be added to 35.5 g of barium nitrate to form a 0.5 m solution?
9. If you dissolve 25 grams of sodium chloride in 5 liters of water, what is the percent by mass of the sodium chloride?
10. Find the mass of solute present if 500 g water is used to make a 10.0% by mass sodium chloride solution.
11. Use the solubility curve to answer the following:
    1. How much potassium nitrate will dissolve in 100 g of water at 50 °C?
    2. What amount of potassium nitrate will precipitate if the solution is cooled to 10 °C?
    3. How would a solution of 20 g NaCl in 100 g of water at 50 °C be described? (saturated, unsaturated, or supersaturated?)
12. Compare and contrast the solubility of solids and gases in water as temperature raises.
13. If you took 3L of a 12 M hydrochloric acid solution and diluted it to 10 L, what would the new molarity be?
14. I have 300 ml of a 3 M acid. If I began with 100 ml of the concentrated stock solution, and then diluted it to the 300 ml, what was the original molarity of the stock solution.
15. 3 mol of calcium nitrate are dissolved in 5L of solution.
16. What mass of calcium nitrate is dissolved?
17. How many moles of nitrate ions are in solution?
18. What is the molarity of the nitrate ions in the solution?
19. 35 g sodium chloride are dissolved in 500 ml of solution.
20. How many moles of sodium chloride are dissolved?
21. What is the total molarity of the solution?
22. What is the molarity of the sodium ions?