Name: _____ **KEY** _____
Solubility WS

Use your solubility curve chart to answer the following questions.

Part 1: Graph interpretation: (no work needed)

What are the customary units of solubility on solubility curves? **Grams of Solute per 100 g of water**

1. According to the graph, the solubility of any substance changes as **temperature** changes.

2. Most substances on this graph show increased solubility as temperature increases. What are the exceptions? **$Ce_2(SO_4)_3$ and NH_3**

3. The solubilities of substances whose curves show greater (steeper) slopes are
(**more**/less) affected by temperature changes than those that have more gradual slopes.

4. Which salt has solubility values that are least affected by changes in temperature? **NaCl**

5. What is the solubility of ammonium chloride at 60°C? **50 g/100 g H_2O**

6. At what temperature do potassium chlorate and potassium chloride have the same solubility in water? **95 °C**

7. Which compound is least soluble in water at 12°C? **$KClO_3$**

8. A saturated solution of which compound contains 130 grams of solute per 100 grams of water at 70°C? **KNO_3**

9. Are the following solutions unsaturated, saturated, or supersaturated?
   a. 80 g of sodium nitrate in 100 g of water at 30°C. **unsaturated**
   b. 80 g of potassium chlorate in 100 g of water at 50°C. **supersaturated**

10. Which saturated solution of a chloride has the greatest percentage by mass of solute at 60°C? **don't worry about this question for the test**

Problems: Show all work on a separate sheet.