

Name \_\_\_\_\_

## Molarity (M)

$$\text{Molarity} = \frac{\text{moles of solute}}{\text{liter of solution}}$$

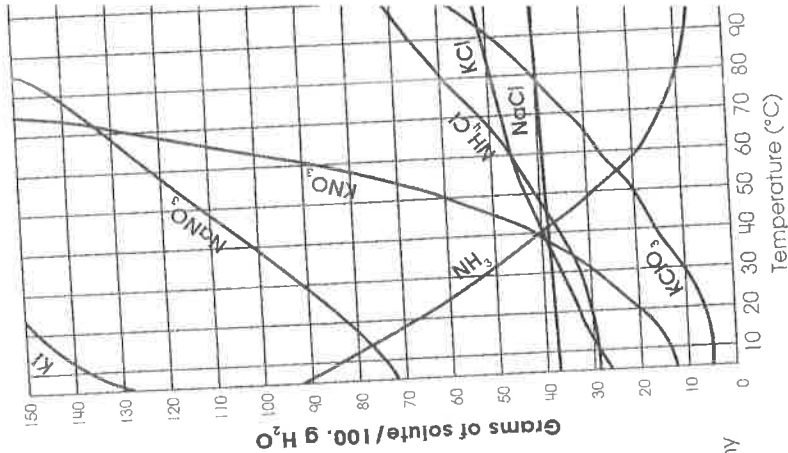
Solve each problem.

1. What is the molarity of a solution in which 58 g of NaCl are dissolved in 1.0 L of solution?
2. What is the molarity of a solution in which 10.0 g of  $\text{AgNO}_3$  are dissolved in 500. mL of solution?
3. How many grams of  $\text{KNO}_3$  should be used to prepare 2.00 L of a 0.500 M solution?
4. To what volume should 5.0 g of KCl be diluted in order to prepare a 0.25 M solution?
5. How many grams of  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$  are needed to prepare 100. mL of a 0.10 M solution?

## Solubility Curves

Name \_\_\_\_\_

Answer each question based on the solubility curve shown.



1. Which salt is least soluble in water at 20°C? \_\_\_\_\_
2. How many grams of potassium chloride can be dissolved in 200 g of water at 80°C? \_\_\_\_\_
3. At 40°C, how much potassium nitrate can be dissolved in 300 g of water? \_\_\_\_\_
4. Which salt shows the least change in solubility from 0°C to 100°C? \_\_\_\_\_
5. At 30°C, 85 g of sodium nitrate are dissolved in 100 g of water. Is this solution *saturated*, *unsaturated*, or *supersaturated*? \_\_\_\_\_
6. A saturated solution of potassium chlorate is formed from 100 g of water. If the saturated solution is cooled from 80°C to 50°C, how many grams of precipitate are formed? \_\_\_\_\_
7. What compound shows a decrease in solubility from 0°C to 100°C? \_\_\_\_\_
8. Which salt is most soluble at 10°C? \_\_\_\_\_
9. Which salt is least soluble at 50°C? \_\_\_\_\_
10. Which salt is least soluble at 90°C? \_\_\_\_\_

