Name _____ Date _____ Class _____

15–2 Practice Problems

1. What is the molarity of the solution produced when 145 g of sodium chloride (NaCl) is dissolved in sufficient water to prepare 2.75 L of solution?

2. How many grams of potassium chloride (KCl) are needed to prepare 0.750 L of a 1.50 *M* solution of potassium chloride in water?

3. What is the molarity of the solution produced when 85.6 g of hydrochloric acid (HCl) is dissolved in sufficient water to prepare 0.385 L of solution?

4. To produce 3.00 L of a 1.90 *M* solution of sodium hydroxide (NaOH), how many grams of sodium hydroxide must be dissolved?

5. If 8.77 g of potassium iodide (KI) are dissolved in sufficient water to make 4.75 L of solution, what is the molarity of the solution?

6. In order to prepare 2.00 L of a 3.00 *M* solution of ferric chloride ($FeCl_3$), how many grams of ferric chloride must be used?

7. What is the molarity of the solution produced when 14.1 g of ammonia (NH_3) is dissolved in sufficient water to prepare 0.100 L of solution?

8. To prepare 10.5 L of a 2.50 *M* solution of potassium hydroxide (KOH), how many grams of potassium hydroxide must be used?

9. What is the molality of a solution containing 75.2 g of silver perchlorate ($AgClO_4$) dissolved in 885 g of benzene?

10. What is the molality of a solid solution containing 0.125 g of chromium and 81.3 g of iron?

11. If 18.6 g of methanol is used to dissolve 2.68 g of $Hg(CN)_2$, what is the molality of the solution?

12. What is the molality of solid solder wire if it is made from 68.7 g of lead dissolved in 117 g of tin?