1. 0.0750 moles of potassium nitrate is dissolved in water and diluted to a final volume of 500. mL. What is the molarity of the solution?

2. How many grams of potassium bicarbonate, $\text{KHCO}_3$, must be dissolved and diluted to 2.0 L to produce a solution that is 0.750 M?

3. 274 mg of lithium chloride are dissolved in water and diluted to 50.0 mL. Find the molarity of this solution.

4. How many grams of salt would be added to prepare 2.50 L of a 3.0% saline solution by mass?

5. Determine the molarity of a solution prepared by dissolving 36.5 g of $\text{H}_2\text{SO}_4$ in water to make 2.0 L of solution.

6. How much 15.4 M $\text{HNO}_3$ must be used to prepare 6.5 L of 6.0 M $\text{HNO}_3$?

7. What volume of 0.30 M solution can be prepared from 50.5 g of potassium nitrate?
8. How many grams of cane sugar, $\text{C}_{12}\text{H}_{22}\text{O}_{11}$, would be needed to prepare 1.0 L of a 0.20 M sugar solution?

9. If 10.0 mL of acetic acid is diluted with water to a total solution volume of 200.0 mL. What is the percent by volume of acetic acid in the solution?

10. How much water would be needed when 6.3 g of $\text{MgNO}_3$ is dissolved to make up a 4.0% by mass solution?

11. What is the percent by volume of $\text{AgNO}_3$ when 50.0 mL is diluted to 450. mL in water?

12. A solution of hydrochloric acid, $\text{HCl}$, is 0.300 M. What mass of acid is dissolved in 150. mL of solution?

13. What is the molarity of a solution of $\text{Mg(OH)}_2$ that contains 20.0 g of solute in 325 mL of solution?

14. How many grams of potassium iodide is required to make 500. mL of 0.125 M solution?

15. Determine the molarity of $\text{CuBr}_2$ solution when 145 g is dissolved to form 2.50 L of solution.