

Molarity Practice

Name: _____

Date: _____

- Calculate the molarity of the following solutions:
 - 45 g of Na_2SO_4 in 150 mL of solution.
 - 24.6 g of $(\text{NH}_4)_2\text{CO}_3$ in 75 mL of solution.
 - 73.1 g of $\text{Ca}(\text{NO}_3)_2$ in 125 mL of solution.
- What is the concentration of sulphate ions, SO_4^{2-} , in each of the following?
 - 0.75 M $\text{Al}_2(\text{SO}_4)_3$
 - 1.35 M Na_2SO_4
- What is the molarity of chlorine ions in solution when 47 g of AlCl_3 is dissolved in a 210 mL of solution?
- Which of the following solutions has the highest concentration? Prove using calculations.
 - 12.5 g of CaCl_2 in 40 mL of solution
 - 20.9 g of MgI_2 in 35 mL
- How many grams of salt (NaCl) need to be dissolved in 300 mL of solution to give you a solution that has a concentration of 1.2 M? (Hint: you need to work backwards on this one. You are given the molarity and the liters, so find the moles and convert to grams.)

6. Calculate the number of grams of Na_2SO_4 that would be required to mix 5.0L of a 0.10M solution.
7. Calculate the number of grams of NaOH that would be required to mix 10.0L of a 0.400M solution.
8. Calculate the number of grams of $\text{Ca}(\text{NO}_3)_2$ that would be required to mix 20.0L of a 0.0100M solution.
9. A calcium chloride solution was prepared by dissolving 54.0g of calcium chloride in sufficient water to make a final solution volume of 2.00L. What is the molarity of the solution?
10. If 26.0g of NaCl are dissolved to make 250.0mL of solution, what is the resulting molarity?
11. A 2.00g sample of NaOH was dissolved in water to produce a volume of exactly 200.0mL. What is the molarity of the solution?
12. How many millilitres of 0.500M Li_2CO_3 solution are required to supply 0.0100mol Li_2CO_3 ?
13. What volume of a 1.80M solution of H_2CO_3 contains 5.00g of H_2CO_3 ?
14. How many millilitres of 0.250M K_2CO_3 solution are required to supply 0.100mol K_2CO_3 ?
15. What volume of a 1.20M solution of AgNO_3 contains 55.0G of AgNO_3 ?