4. What is the molarity of a solution that contains 85.0 grams Na_2SO_4 in 325 mL of solution? 4. 1.84 M

85 g Na_2SO_4 | 1 mol / 142.1 g | .325 L

5. What is the molarity of a solution that contains 210 grams of $Al_2(SO_4)_3$ in 2.75 liters of solution? 5. .223 M

210 g $Al_2(SO_4)_3$ | 1 mol / 342.2 g | 2.75 L

6. If a 0.750 *M* aqueous solution of NaOH is to be prepared using 18.5 g NaOH, how many mL of solution can be produced? 6. 617 mL

18.5 g NaOH | 1 mol / 40.0 g | 1 L / .75 mol | 1000 mL / L

7. What is the molarity of a solution that contains 125 g C_2H_5OH in 0.250 L of solution? 7. 10.9 M

125 g C_2H_5OH | 1 mol / 46.07 g | .250 L

8. What volume of 1.40 *M* $HC_2H_3O_2$ solution contains 0.400 mole of $HC_2H_3O_2$? 8. .286 L

.4 mol | 1 L / 1.4 mol

mol / M / L

9. A solution of $Al(NO_3)_3$ is 2.00 *M*. What volume of this solution contains 0.250 mole ~~of NO_3^- ions~~? 9. .0417 L

.250 mol NO_3 | 1 mol $Al(NO_3)_3$ / 3 mol NO_3 | dm^3 / 2 mol

.083 mol $Al(NO_3)_3$

T2 ↓ .125

10. A solution of $(NH_4)_2SO_4$ is to be prepared that is 2.25 *M* in ~~NH_4^+~~. What volume of solution can be produced using 50.0 g $(NH_4)_2SO_4$? 10. .336 L

2.25 mol NH_4^+ | 1 mol $(NH_4)_2SO_4$ / 2 NH_4^+ | 1 mol / 132.1 g

T2 ↓ .168 L

50 g × 1 mol / 132.1 g = .379 mol