

A. Review :

1. What is the percent concentration (v/v) of a solution formed by dissolving 20.0 mL of acetone in in 65 mL of ethanol?

24%

2. How many grams of glucose are there in 500.0 mL a 25 % (g/mL) solution of glucose?

125g

3. What is the molarity of a solution formed by dissolving 25.0 g of potassium hydroxide in enough water to form 500.0 mL of solution?

0.891 M KOH

4. What is the molarity of a solution formed by dissolving 18.0 g of sodium nitrate in enough water to form 250.0 mL of solution?

0.847 M NaNO_3

5. How many grams of sodium nitrate are there in 250.0 mL of a .50 M solution of sodium nitrate?

11g

6. How many grams of sodium chloride are there in 30.0 mL of a 1.2 M solution of sodium chloride?

2.1g

B. Molality problems

7. What is the molality (m) of a solution formed by dissolving 1.2 moles of a solute in .90 kg of solvent?

1.3 m

8. What is the molality (m) of a solution formed by dissolving 3.3 moles of glucose in 1,500 g of water?

2.2 m

9. What is the molality of a solution formed by dissolving 15.0 grams of glucose (molar mass = 180.18 g/mol) in 600.0 grams of water?

0.139m

10. What is the molality of a solution formed by dissolving 35.0 grams of urea ($\text{CH}_4\text{N}_2\text{O}$) in 450.0 grams of water?

1.29m

11. How many moles of urea are needed to form a 0.20 m solution using 125 grams water?

0.025mol

12. How many grams urea are needed to form a 0.30 m solution of urea using 500.0 grams of water ?

9.0g

13. How many grams of sucrose ($\text{C}_{12}\text{H}_{22}\text{O}_{11}$ = 342.34 g/mol) are needed to form a 0.50 m solution of sucrose using 755 grams of water ?

130g

14. How many kilograms of water are needed to form a .50 m solution if 1.0 molés of solute are used?

2.0kg

15. How many grams of water are needed to form a .010 m solution of sucrose if 2.0 moles of sucrose are used?

2.0×10^5 g

16. How many grams of water are needed to form a .20 m solution of urea using 25.0 grams of urea?

2,100g