

Name: _____

Date: _____

Chemistry
Concentration of Solutions WS 1 (Molarity)

- I. Complete the following problems, showing all work and circling your answer:
1. A 3 M (molar) solution means there are 3 moles of solute dissolved for every 1 liter of solvent.
 - a. How many moles of solute would there be in 2 liters of a 3 M solution?

 - b. How many moles of solute would there be in 0.25 liters of a 3 M solution?

 2. What is the molar concentration of 0.575 mol NaCl dissolved in 2.00 L of water?

 3. What is the molar concentration of 46.5 g KBr dissolved in 1.50 L H₂O?

 4. What is the molar concentration of 202.9 g CaCl₂ dissolved in 4.5 L H₂O?

 5. What is the molar concentration of 65.5 g of copper (I) sulfate dissolved in 2.4 L of H₂O?

 6. How many moles of LiCl₂ would be needed to make 0.450 L of a 3.0 M solution?

7. How many moles of KSO_3 would be needed to make 1.5 L of a 0.04 M solution?

8. How many grams of NaOH would be needed to make 0.750 L of a 0.50 M solution?

9. How many grams of copper (II) nitrate would be needed to make 400. mL of a 2.00 M solution?

10. How many grams of sodium sulfate are required to prepare a 250. mL solution with a concentration of 0.683 M?

11. How many grams of ethanol ($\text{C}_2\text{H}_5\text{OH}$) are present in 85.0 mL of a 0.451 M ethanol solution?

12. What is the mass of NaOH required to prepare 4.50×10^2 mL of solution with a concentration 2.80 M?

13. What is the molarity of a phosphoric acid solution containing 150. grams of the acid in 750. mL of solution?