

CHE 112 - Homework - Ch 12c
Concentration Units

Name: _____

Date: _____

1. How many grams of Na_2CO_3 should you weigh out to prepare 100.0 mL of a 0.50 M solution of Na_2CO_3 . Explain. 1. _____

2. How many grams of Benzoic Acid ($\text{C}_7\text{H}_6\text{O}_2$) must be added to 165 mL of water to make a 0.024 molal solution? Explain. 2. _____

3. Which of the following solutions has a higher molarity: (A) 10 ppm KI in water or (B) 10,000 ppb KBr in water? Explain. 3. _____

4. Which of the following solutions has a higher molarity: (A) 0.25 mass % KCl in water or (B) 0.25 mass % citric acid ($\text{C}_6\text{H}_8\text{O}_7$) in water? Explain. 4. _____

5. What is the mass percent concentration of a solution prepared by dissolving 1.35 g of KBr in 5.00 mL of water? Explain. 5. _____

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6. What is the molarity of the solution in the preceding problem? Explain. 6. _____

7. How many grams of water should you add to 32.5 grams of sucrose ($C_{12}H_{22}O_{11}$) to get a 0.850 molal solution? 7. _____

8. Lactose ($C_{12}H_{22}O_{11}$) is a naturally occurring sugar found in mammalian milk. A 0.335 M solution of lactose in water has a density of 1.0432 g/mL at 25°C. What is the concentration of this solution in the following units.

(a) Mole Fraction 8(a) _____

(b) Mass Percent 8(b) _____

(c) Molality 8(c) _____