NAME _____ DATE _____ CLASS _____

QUIZ

Concentrations of Solutions

1. Select the answer that shows the words in the correct order to complete the passage.
Molarity is defined as the _____ per _____. A solution with lower amounts of solute is called a _____ solution, while a solution with higher amounts is called a _____ solution.

A. moles of solute; liters of solution; diluted; concentrated
B. liters of water; moles of solute; concentrated; diluted
C. grams of solute; liters of solution; diluted; concentrated
D. liters of solution; moles of solute; concentrated; diluted

2. What is the molarity of a solution that contains 78.5 g of copper(II) chloride in 1.50 L of solution?

A. 52.3*M*
B. 0.390*M*
C. 1.14*M*
D. 0.585*M*

3. A student is asked to prepare 400.0 mL of a 0.25*M* HCl solution. The students find a bottle labeled "2.0*M* HCl". How many mL of the 2.0*M* solution are needed to prepare the 0.25*M* solution?

A. 25 mL
B. 3.0×10^1 mL
C. 5.0×10^1 mL
D. 2.0×10^2 mL

4. Vinegar is sold as a 5.00% (v/v) solution of acetic acid. How many mL of water is in a 455 mL bottle of vinegar?

A. 23 mL
B. 91 mL
C. 432 mL
D. 455 mL

5. When performing reactions, chemists often begin with solutions of a compound rather than its solid form. One of the reasons this is done is so chemists do not need to wait for the solid to dissolve.

A chemist is given a 3.00*M* solution of KBr and needs to measure out 0.733 moles of this solution. How many mL of the 3.00M KBr solution would the chemist need?

A. 244 mL
B. 4.09 mL
C. 2.20 mL
D. 212 mL