

Chemistry 22 Quiz #4

Please answer questions 1-7 with a #2 pencil on an 882-E Scantron. Fill in the answers for question number 8, 9 and 10 on this sheet. Please put your name on the scantron. _____

1. What is the percent by mass of hydrogen in $\text{HC}_2\text{H}_3\text{O}_2$?
 - A. 1.68%
 - B. 5.05%
 - C. 6.73%
 - D. 53.3%
2. What is the molar mass of $\text{Mg}(\text{ClO}_4)_2$?
 - A. 223.21g
 - B. 1.00g
 - C. 301.01g
 - D. 187.76g
3. How many molecules are present in 0.300 moles of HI?
 - A. 2.43×10^{24}
 - B. 1.81×10^{23}
 - C. 2.01×10^{24}
 - D. 3.00×10^{22}
4. How many moles are present in 1.51×10^{23} molecules of MgCl_2 ?
 - A. 9.12
 - B. 0.251
 - C. 3.99
 - D. 146
5. What is the mass of 4.36×10^{23} molecules of CCl_4 ?
 - A. 312g
 - B. 212g
 - C. 111g
 - D. 154g
6. How many moles are present in 1.64g of MgSO_4 ?
 - A. 0.734 moles
 - B. 1.64 moles
 - C. 120. Moles
 - D. 0.0136 moles
7. What is the mass of 3.61 moles of CaCl_2 ?
 - A. 3.61g
 - B. 21.7g
 - C. 21.7×10^{23} g
 - D. 401g

The question below is to be used for answering questions 8, 9, and 10

A compound is composed of 24.27% carbon, 4.08% hydrogen, and 71.65% chlorine. The compound has a molar mass of 98.96g. Show Work.....

8. What is the empirical formula of the compound?
9. What is the molecular formula of the compound?
10. If I have 12.05 grams of this compound how many molecules of this do I have?