

I. Multiple Choice and Completion - Choose the best answer and print the letter of this answer in the appropriate space on the scantron sheet.

1. What is the total number of atoms in $\text{Mg}(\text{ClO}_3)_2$?
(A) 3. (B) 5. (C) 8. (D) 9. (E) 10.
2. Which of the following molecules contains a polar bond?
A) Cl-Cl B) H-H C) F-F D) H-F

II Naming.

1. What is the name of the compound with the chemical formula NH_4NO_3 ?
- 2 What is the name of the compound with the chemical formula Al_2O_3 ?
3. What is the chemical formula for copper(II) sulfate?
4. What is the chemical formula for iron(III) oxide?

Problem 2 (10 points).

Please draw the Lewis structure for the polyatomic ion NO_3^- . Please show all formal charges.

What is the electron pair geometry about the central N? _____

What are the bond angles about the central N? _____

Problem 3.

Given a 12.00 % solution of HCl, describe how you would make 2.00 liters of a 0.347 % solution of HCl? Begin with the words “ I would.....”

Problem 4. (8 pts)

How many moles of nitrogen gas are present in 345 mL at 125°C and 1245 torr?