**Oxford High School**

**Chemistry**

**Chapter 1-11 Cumulative Review**

**Set A**

1. Calculate the number of moles in each of the following
2. 54.0 L of NO2
3. 1.68 g of Mg2+
4. 4.27 x 1024 molecules of CO
5. The percent composition of caffeine is 49.5% C, 5.20% H, 16.5% O, and 28.9% N. What is the molecular formula if the molar mass is 194.1 g/mol?
6. The mass of a proton is 1.67 x 10-24g and the mass of the electron is 9.11 x 10-28g.
7. What is the mass of one mole of protons?
8. What is the mass of one mole of electrons?
9. How many electrons are equal in mass to one proton?
10. How many grams of Be are in 147 g of Be3Al2Si6O18?
11. Complete and balance the following equations ( be sure to indicate which product is the precipitate)
12. Ba(NO3)2 (aq) + Na2SO4(aq) →
13. AlCl3(aq) + AgNO3(aq) →
14. Write the total ionic and net ionic equation for reaction A
15. Hydrazine is a rocket fuel. It reacts with nitrogen according to the following equation:

N2H4(l) + O2(g) → N2(g) + 2H2O(g)

1. How many liters of N2 (at STP) form when 1.0 kg of N2H4 reacts with 1.0 kg of O2?
2. How many grams of excess reagent remain after the reaction?
3. Equation:coefficients balance:\_\_\_\_\_\_\_\_
4. Moles
5. Standard masses
6. Weight
7. Atoms
8. Actual:theoretical experimental:\_\_\_\_\_\_
9. Excess
10. Limiting
11. Real
12. Calculated
13. Mass:kilograms volume:\_\_\_\_\_
14. Milliters
15. Molecules
16. Coefficients
17. Products
18. Complete and balance the following equations
19. Al + Cl2→
20. Br2 + NaI →
21. C2H5OH + O2 →
22. Ba(OH)2 + HNO3 →