Chemistry   Name _____

Combining Concepts (Conversions)

Instructions: Read the following problems and complete the correct calculations. SHOW ALL WORK. Round to the nearest hundredths place.

1. How many atoms are in a 3.56 g sample of Cu?

2. How many formula units are in 74 g of KI?

3. How many molecules of HCl are in 4.91 L of HCl at STP?

4. How molecules of H_2O are in 18.4 L of water vapor at STP?

5. What is the volume of 36.0 grams of Ne at STP?

6. What is the volume of 6.13×10^{24} molecules of I_2 at STP?

7. What is the volume of 8.91 g of OF_2 at STP?

8. What is the volume of 2.37 x 10^{24} neon (Ne) atoms at STP?

9. What is the mass of titanium if it contains 4.515 x 10^{22} atoms?

10. What is the mass of 6.13 × 10^{24} molecules of I_2?

11. What is the mass of 13.44 L of SO_2 gas at STP?

12. What is the mass of 35.38 L of Cl_2 gas at STP?