Honors Chemistry: Mole Podcast 7 Problem Set- Percent Composition

1. Calculate the percent composition of lithium oxide.

2. What is the percentage composition of a carbon-oxygen compound, given that a 95.2 g sample of the compound contains 40.8 g of carbon and 54.4 g of oxygen?

3. What is the percentage composition of dinitrogen tetroxide?

4. What is the percentage composition of a compound made from 28 grams of nitrogen and 32 grams of oxygen?

5. What is the percentage composition of a carbon-hydrogen-fluorine compound which contains 7.2 grams of carbon, 11.4 grams of fluorine, and 1.8 grams of hydrogen?

6. Find the percentage composition of sodium sulfate?

7. If a compound is formed from 60.0 liters of nitrogen gas, N_2, (at STP) and 180 liters of hydrogen gas, H_2, (at STP), what is its percentage composition?

8. Find the percentage composition of a compound formed when 0.4 moles of potassium are reacted with 8.96 liters of O_2 gas and 2.41×10^{22} atoms of S.

9. Many salts are hydrated, which means they have water molecules incorporated into their ionic crystal lattice in a fixed ratio. sodium carbonate decahydrate, $Na_2CO_3 \cdot 10H_2O$, has ten water molecules incorporated into the crystal lattice structure. Calculate the percentage of water by mass in this hydrate salt.