1. How many grams are in 4.2 moles of Ca(NO3)2?
2. How many moles are in 2.45 x 1023 molecules of CH4?
3. How many moles are in 55 grams of Cu(OH)2?
4. Given the following equation: 2 K + Cl2 🡪 2 KCl

How many grams of KCl is produced from 2.50 g of K and excess Cl2?

1. How many liters of H2 gas at STP will be produced by 0.400 mole of Ca in the following reaction?

3Ca + 2H3PO4 🡪 Ca3(PO4)2 + 3H2

1. Caffeine has the following percent composition: carbon 49.48%, hydrogen 5.19%, oxygen 16.48% and nitrogen 28.85%.
2. What is the empirical formula?
3. A compound with the following composition has a molar mass of 60.10g/mol: 39.97% carbon; 13.41% hydrogen; 46.62% nitrogen. What is the empirical and molecular formula?
4. Naphthalene is a carbon and hydrogen containing compound often used in moth balls. The empirical formula is C5H4 and its molar mass is 128.16g/mol. Find the molecular formula.
5. How many moles are in 22 g of Argon?
6. What is the molar mass of Ca(NO3)2 4H2O
7. According to the Haber equation, ammonia can be made according to the following: N2 + 3H2 🡪 2NH3

What mass of ammonia is made when 20 L of nitrogen is used?

1. 2HNO3 + Ca(OH)2 🡪 2H2O + Ca(NO3)2

How many moles of water can be produced when 4 moles of Ca(OH)2 react with an excess of HNO3?

1. What is the percent composition of Oxygen in CaCO3?
2. How many moles are in 3.21 x 1023 molecules of NaCl?
3. What is the percent composition of Nitrogen in Ca(NO3)2?
4. How many molecules are in 2.3 g of NaCl?
5. Given the following equation:

2H2 + O2 🡪 2H2O

How many liters of oxygen are needed to react with 30 L of hydrogen in order for the reaction to take place?