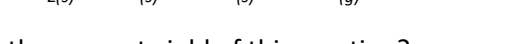
Chemistry – Chapter 12 book problems #4: % yield

1. When 5.00 g of copper reacts with excess silver nitrate, silver metal and copper (II) nitrate are produced. What is the theoretical yield of silver in this reaction?

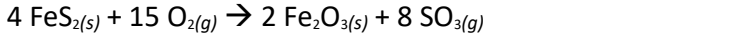
2. If 50.0 g of silicon dioxide is heated with an excess of carbon, 27.9 g of silicon carbide is produced.



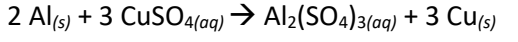
What is the percent yield of this reaction?

3. If 15.0 g of nitrogen reacts with 15.0 g of hydrogen, 10.5 g of ammonia is produced. What is the percent yield of this reaction?

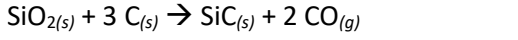
4. How many grams of SO_3 are produced when 20.0 g FeS_2 reacts with 16.0 g O_2 according to this balanced equation?



5. What is the percent yield if 4.65 g of copper is produced when 1.87 g of aluminum reacts with an excess of copper (II) sulfate?



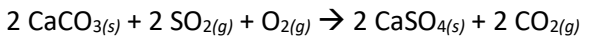
6. When 50.0 g of silicon dioxide is heated with an excess carbon, 32.2 g of silicon carbide is produced.



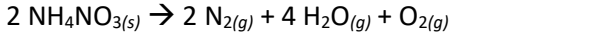
a. What is the percent yield of this reaction?

b. How many grams of CO gas are made?

7. If the reaction below proceeds with a 96.8% yield, how many kilograms of $CaSO_4$ are formed when 5.24 kg SO_2 reacts with an excess of $CaCO_3$ and O_2?



8. Ammonium nitrate will decompose explosively at high temperatures to form nitrogen, oxygen, and water vapor.



What is the total number of liters of gas formed when 228 g NH_4NO_3 is decomposed? (Assume STP).