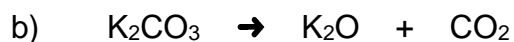


Name: _____

Stoichiometry Review
SCH 4C

1. Balance each of the following equations:



2. Perform each of the requested conversions

a) convert 23.6 g of CO_2 to an amount (in mol) of CO_2

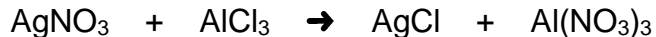
b) convert 8.7 mol of NaCl to a mass in g of NaCl

c) convert 1.40 mol of $\text{C}_6\text{H}_{12}\text{O}_6$ to number of molecules

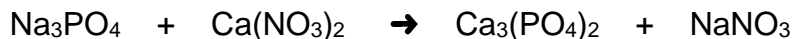
d) convert 1.40 mol of $\text{C}_6\text{H}_{12}\text{O}_6$ to number of hydrogen atoms

e) convert 2.37×10^{24} molecules of C_2H_6 to a mass in g of C_2H_6

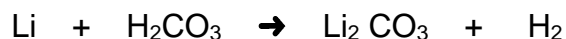
3. What mass of silver chloride will form if 24.3 g of aluminum chloride is reacted.



4. What mass of sodium phosphate is required to form 122 g of calcium phosphate



5. What amount of lithium carbonate will form from the reaction of 3.42 g of lithium metal



6. What mass of uranium hexafluoride will form from the reaction of 25.0 mol of fluoride gas



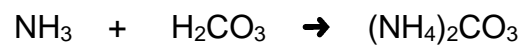
7. What mass of sodium sulphate and what mass of hydrogen carbonate will form from 65.0 g of sodium carbonate



8. What mass of aluminum carbonate will form from the reaction of 32.0 g of aluminum nitrate with 22.0 g of potassium carbonate



9. Determine the maximum possible mass of ammonium carbonate can be formed from 15.0 g of ammonia and 25.0 g of hydrogen carbonate

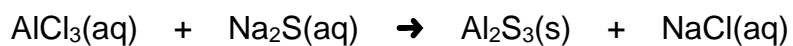


10. Determine the concentration of each solution
- a) 4.5 mol of NaBr is dissolved in 18 L of solution

 - b) 42.5 g of K_2CO_3 is dissolved in 15.5 L of solution

 - c) 500 mL of 6.0M H_2SO_4 is diluted to 2.5 L
11. Determine the mass of sodium sulphate (Na_2SO_4) that is required to make 5.0 L of 2.0 M solution.
12. Determine the mass of aluminum carbonate ($Al_2(CO_3)_3$) is required to make 250 mL of 0.0001 M solution

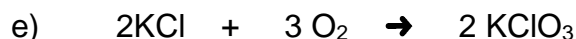
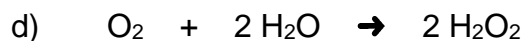
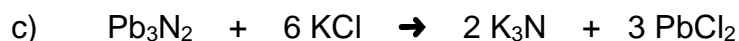
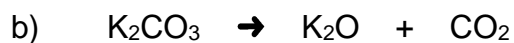
13. Determine the maximum mass of aluminum sulphide that can be obtained from mixing 300 mL of 0.5 M aluminum chloride and 400 mL of 0.5 M sodium sulphide. Which of these two reactants is the limiting reagent.



14. What is the concentration in p.p.m. of gold metal in a 0.0001 M gold(III) nitrate solution ($\text{Au}(\text{NO}_3)_3$)?
15. What is the concentration in p.p.m. of sodium ion in a solution that is made by dissolving 0.002 g of sodium carbonate (Na_2CO_3) in 750 mL of solution?

Answers:

1. Balance each of the following equations:



2. a) 0.536 mol CO_2

b) 508 g NaCl

c) 8.43×10^{23} molec $\text{C}_6\text{H}_{12}\text{O}_6$

d) 1.01×10^{25} atoms H

e) 118 g C_2H_6

3. 78.4 g AgCl

4. 128.96 g Na_3PO_4

5. 0.246 mol Li_2CO_3

6. 2930 g UF_6

7. 87.11 g Na_2SO_4

38.0 g H_2CO_3

8. 12.4 g $\text{Al}_2(\text{CO}_3)_3$ (other answer is 17.6 g $\text{Al}_2(\text{CO}_3)_3$)

9. 38.7 g $(\text{NH}_4)_2\text{CO}_3$ (other answer is 42.3 g $(\text{NH}_4)_2\text{CO}_3$)

10. 0.25 M

11. 1420 g

12. 0.00585 g

13. 10.0 g Al_2S_3 (other answer is 11.3 g Al_2S_3)

14. 19.7 p.p.m. Au^{3+}

15. 1.16 p.p.m. Na^{1+}