Chemistry Stoichiometry Practice
Show Work (Given/Find, Picket Fence and units)

1. How many moles of HNO_3 will be produced when 0.51 mol of N_2O_5 reacts according to the following equation? $N_2O_5 + H_2O \rightarrow 2HNO_3$

2. How many moles of NaBr will be produced when 0.39 mol of bromine gas reacts according to the following equation? $Br_2 + 2NaI \rightarrow 2NaBr + I_2$

3. How many moles of hydrogen will be produced if 0.44 mol of CaH_2 reacts according to the following equation? $CaH_2 + 2H_2O \rightarrow Ca(OH)_2 + 2H_2$

4. How many moles of oxygen will be needed to react with 0.38 mol of C_3H_8 according to the following equation? $C_3H_8 + 5O_2 \rightarrow 3CO_2 + 4H_2O$

5. How many moles of water will be produced if 2.35 mol of oxygen gas reacts according to the following equation? $2C_6H_6 + 15O_2 \rightarrow 12 CO_2 + 6H_2O$

6. How many moles of magnesium are required to react with 2.0 mol of hydrochloric acid (HCl)? The equation for this reaction is $Mg + 2 HCl \rightarrow MgCl_2 + H_2$

7. Aluminum reacts with HCl to produce aluminum chloride($AlCl_3$) and hydrogen gas. Write a balanced equation for the reaction and calculate the number of moles of HCl required to react with 0.87 mol of Al.

8. Glucose ($C_6H_{12}O_6$) combines with O_2 in the body to produce carbon dioxide and water. Write a balanced equation for this reaction. How many moles of O_2 are required to combine with 0.25 mol of glucose? How many moles CO_2 and H_2O would be produced in the reaction?

9. Calcium carbonate ($CaCO_3$) combines with HCl to produce calcium chloride ($CaCl_2$), water and carbon dioxide gas. Write the balanced equation for this reaction. How many moles of HCl are required to react with 2.5 mol of $CaCO_3$? How many moles of CO_2 would be produced?

10. Determine the mass of lithium hydroxide produced when 0.38g of lithium nitride reacts with water according to the following equation: $Li_3N+3H_2O \rightarrow NH_3+3LiOH$

11. Determine the mass of carbon dioxide produced when 0.85g of butane, C_4H_{10}, reacts with oxygen gas according to the following equation: $2C_4H_{10}+13O_2 \rightarrow 8CO_2+10H_2O$

12. Determine the mass of antimony produced when 0.46g of antimony(III) oxide, Sb_2O_3, reacts with carbon according to the following equation: $Sb_2O_3+3C \rightarrow 2Sb+3CO$

13. Determine the mass of sodium nitrate produced when 0.73g of nickel(II) nitrate, $Ni(NO_3)_2$, reacts with sodium hydroxide, NaOH, according to the following equation:
$Ni(NO_3)_2+2NaOH \rightarrow Ni(OH)_2+2NaNO_3$

14. Determine the mass of calcium hydroxide $Ca(OH)_2$ produced when calcium Carbide (CaC_2) reacts with 0.64g of water according to the following equation:
$CaC_2+2H_2O \rightarrow Ca(OH)_2+C_2H_2$