STOICHIOMETRY/LIMITING REAGENT PRACTICE AP CHEMISTRY

(practice, practice, practice. . . .show all work (including balanced equations). . . .the answers are on the back. . . .the solutions are on the back wall. . . . .)

1. Determine the mass of lithium hydroxide produced when 0.38 g of lithium nitride reacts with water according to the following equation:

$Li_3N + 3H_2O$ -------> $NH_3 + 3LiOH$

2. What mass of sodium chloride is produced when chlorine reacts with 0.29 g of sodium iodide?

3. Determine the mass of carbon dioxide produced when 0.85 g of butane reacts with oxygen according to the following equation:

$2C_4H_{10} + 13O_2$ -------> $8CO_2 + 10H_2O$

4. Determine the mass of antimony produced when 0.46 g of antimony(III)oxide reacts with carbon according to the following equation:

$Sb_2O_3 + 3C$ --------> $2Sb + 3CO$

5. What mass of hydrogen peroxide (H_2O_2) must decompose to produce 0.77 g of water?

6. What mass of carbon monoxide must react with oxygen to produce 0.69 g of carbon dioxide?

7. Identify the limiting reagent when 65.14 g of $CaCl_2$ reacts with 74.68 g of Na_2CO_3 to produce $CaCO_3$ and NaCl (show work!)

8. Identify the limiting reactant when 4.687 g of SF_4 reacts with 6.281 g of I_2O_5 to produce IF_5 and SO_2.

9. If 4.1 g of Cr is heated with 9.3 g of Cl_2, what mass of $CrCl_3$ will be produced?

10. What mass of SO_2 is produced from the reaction between 31.5 g of S_8 and 8.65 g of O_2?

11. What mass of SO_3 is produced from the reaction of 12.4 g of SO_2 and 3.45 g of O_2?

12. What mass of H_2SO_4 is produced from the reaction of 6.58 g of SO_3 and 1.64 g of H_2O?

13. What mass of CdS is produced if 8.47 g of cadmium reacts with 2.51 g of sulfur?

ANSWERS:
(YOU'RE NOT ACTUALLY GOING TO LOOK AT THESE UNTIL YOU ARE DONE WITH ALL OF YOUR PRACTICE PROBLEMS, SHOWING ALL OF YOUR WORK. . . . .RIGHT!!!???)

1. 0.78 g of LiOH
2. 0.11 g NaCl
3. 2.6 g CO_2
4. 0.38 g Sb
5. 1.4 g H_2O_2
6. 0.44 g CO
7. $CaCl_2$
8. SF_4
9. 12 g $CrCl_3$
10. 17.3 g SO_2
11. 15.5 g SO_3
12. 8.06 g H_2SO_4
13. 10.9 g CdS