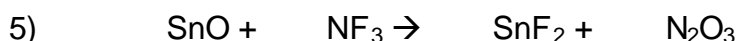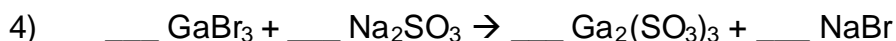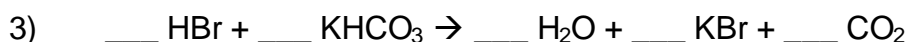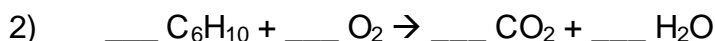# Summer Review Sheet #4
Balancing Equations and Simple Stoichiometry

Answers are provided on the second sheet. Please try to do the worksheet without referring to them, because you'll be expected to know this stuff the first day of school!

Balance the following equations:

1)   ___ N_2 + ___ F_2 → ___ NF_3

2)   ___ C_6H_{10} + ___ O_2 → ___ CO_2 + ___ H_2O

3)   ___ HBr + ___ $KHCO_3$ → ___ H_2O + ___ KBr + ___ CO_2

4)   ___ $GaBr_3$ + ___ Na_2SO_3 → ___ $Ga_2(SO_3)_3$ + ___ NaBr

5)   ___ SnO + ___ NF_3 → ___ SnF_2 + ___ N_2O_3

Using the equation from problem 2 above, answer the following questions:

6)   If I do this reaction with 35 grams of C_6H_{10} and 45 grams of oxygen, how many grams of carbon dioxide will be formed?

7)   What is the limiting reagent for problem 6? _____

8)   How much of the excess reagent is left over after the reaction from problem 6 is finished?

9)   If 35 grams of carbon dioxide are actually formed from the reaction in problem 6, what is the percent yield of this reaction?

Summer Review Sheet #4
Balancing Equations and Simple Stoichiometry

Answers are provided on the second sheet. Please try to do the worksheet without referring to them, because you'll be expected to know this stuff the first day of school!

Balance the following equations:

1) $1 N_2 + 3 F_2 \rightarrow 2 NF_3$

2) $2 C_6H_{10} + 17 O_2 \rightarrow 12 CO_2 + 10 H_2O$

3) $1 HBr + 1 KHCO_3 \rightarrow 1 H_2O + 1 KBr + 1 CO_2$

4) $2 GaBr_3 + 3 Na_2SO_3 \rightarrow 1 Ga_2(SO_3)_3 + 6 NaBr$

5) $3 SnO + 2 NF_3 \rightarrow 3 SnF_2 + 1 N_2O_3$

Using the equation from problem 2 above, answer the following questions:

6)   If I do this reaction with 35 grams of C_6H_{10} and 45 grams of oxygen, how many grams of carbon dioxide will be formed?
When you do this calculation for 35 grams of C_6H_{10}, you find that 113 grams of CO_2 will be formed. When you do the calculation for 45 grams of oxygen, you find that 43.7 grams of CO_2 will be formed. Because 43.7 grams is the smaller number, oxygen is the limiting reagent, forming 43.7 grams of product.

7)   What is the limiting reagent for problem 6? **oxygen**

8)   How much of the excess reagent is left over after the reaction from problem 6 is finished?
21.5 grams of C_6H_{10} will be left over.

9)   If 35 grams of carbon dioxide are actually formed from the reaction in problem 6, what is the percent yield of this reaction?
80.1%