Worksheet: Mole/Mole Problems **Name**_____

Answer each of the following questions using the equation provided. BE SURE TO BALANCE EACH EQUATION BEFORE SOLVING ANY PROBLEMS. SHOW ALL WORK.

1. ___NO + ___O_2 → ___NO_2

   a. 2 moles of NO will react with _____ mole(s) of O_2 to produce _____ mole(s) of NO_2.

   b. ? moles NO_2 = 3.6 moles O_2 $\times$ $\frac{\text{moles } NO_2}{\text{moles } O_2}$ =

   c. How many moles of NO must react to form 4.67 moles of NO_2?

2. ___NH_3 + ___O_2 → ___N_2 + ___H_2O

   a. 20 moles of NH_3 are needed to produce _____ moles of H_2O.

   b. How many moles of N_2 will be produced if 3.5 moles of O_2 react?

3. ___AlF_3 + ___O_2 → ___Al_2O_3 + ___F_2

a. 20 moles of AlF_3 will produce _____ moles of F_2.

b. _____ moles of AlF_3 will react with 0.6 moles of O_2.

4. ___C_3H_8 + ___O_2 → ___CO_2 + ___H_2O

a. How many moles of oxygen react with 11 moles of C_3H_8?

b. How many moles of CO_2 are produced if 3.5 moles of water are produced?

5. ___O_2 + ___Fe → ___Fe_2O_3

a. Fill in the following word equation--_____ moles of oxygen gas react with _____ moles of iron to produce _____ moles of iron (III) oxide.

b. _____ moles of O_2 are required to produce 3.0 moles of iron (III) oxide.