Mole Ratio Worksheet

1) Given this equation: $N_2 + 3\ H_2 \rightarrow 2\ NH_3$, write the following molar ratios:

a) N_2 / H_2

b) N_2 / NH_3

c) H_2 / NH_3

2) Given the following equation: $8\ H_2 + S_8 \rightarrow 8\ H_2S$, write the following molar ratios:

a) H_2 / H_2S

b) H_2 / S_8

c) H_2S / S_8

3) Answer the following questions for this equation: $2\ H_2 + O_2 \rightarrow 2\ H_2O$

a) What is the H_2 / H_2O molar ratio?

b) Suppose you had 20 moles of H_2 on hand and plenty of O_2, how many moles of H_2O could you make?

c) What is the O_2 / H_2O molar ratio?

d) Suppose you had 20 moles of O_2 and enough H_2, how many moles of H_2O could you make?

4) Use this equation: $N_2 + 3\ H_2 \rightarrow 2\ NH_3$, for the following problems

a) If you used 1 mole of N_2, how many moles of NH_3 could be produced?

b) If 10 moles of NH_3 were produced, how many moles of N_2 would be required?

c) If 3.00 moles of H_2 were used, how many moles of NH_3 would be made?

d) If 0.600 moles of NH_3 were produced, how many moles of H_2 are required?