Mole Ratio Worksheet

1) Given this equation: $N_2 + 3 H_2 \longrightarrow 2 NH_3$, 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: $8 H_2 + S_8 \longrightarrow 8 H_2S$, 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: $2 H_2 + O_2 \longrightarrow 2 H_2O$

    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: $N_2 + 3 H_2 \longrightarrow 2 NH_3$, 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?