

Chemistry I

Name \_\_\_\_\_

Date \_\_\_\_\_ Per \_\_\_\_\_

Worksheet # C49: Using the Mole House

For all of the problems below you may assume the conditions are at STP. Show all the right set-ups for credit. Include units and correct sig figs.

1. Draw a sketch of the Mole House in the space below:

2. Given the following equation:  $\text{N}_2(\text{g}) + 3\text{H}_2(\text{g}) \rightarrow 2\text{NH}_3(\text{g})$

a. How many moles of  $\text{NH}_3(\text{g})$  could you make with 2.00 moles of  $\text{N}_2(\text{g})$ ?

b. How many liters of  $\text{H}_2(\text{g})$  are needed to make 3.00 liters of  $\text{NH}_3(\text{g})$ ?

c. How many molecules of  $\text{NH}_3(\text{g})$  could you make with  $3.9 \times 10^{17}$  molecules of  $\text{N}_2(\text{g})$ ?

d. How many molecules of  $\text{N}_2(\text{g})$  are needed to make 5.00 liters of  $\text{NH}_3(\text{g})$ ?

