Molar Volume of a Gas

Name _____

Remember that 1 mol of ***any*** gas takes up 22.4 L @ STP.

1. $N_2 + 3H_2 \rightarrow 2NH_3$

   What volume of hydrogen is necessary to react with five liters of nitrogen to produce ammonia? (Assume constant temperature and pressure.)

   _____

2. What volume of ammonia is produced in the reaction in Problem 1?

   _____

3. $C_3H_8 + 5O_2 \rightarrow 3CO_2 + 4H_2O$

   If 20 liters of oxygen are consumed in the above reaction, how many liters of carbon dioxide are produced?

   _____

4. $2H_2O \rightarrow 2H_2 + O_2$

   If 30 mL of hydrogen are produced in the above reaction, how many milliliters of oxygen are produced?

   _____

5. $2CO + O_2 \rightarrow 2CO_2$

   How many liters of carbon dioxide are produced if 75 liters of carbon monoxide are burned in oxygen? How many liters of oxygen are necessary?

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