HW 21

Hydrogen

One of the most important hydrogen compounds is ammonia, which is obtained through high-temperature, high-pressure reaction of hydrogen and oxygen in the presence of a catalyst that facilitates the reaction:

$$H_2 + N_2 \rightarrow NH_3$$

1. Balance the reactions
2. How many moles of ammonia forms from each mole of nitrogen?
3. How many moles of ammonia forms from each mole of hydrogen?
4. How many moles of hydrogen react with each mole of nitrogen?
5. How many grams of ammonia form from 6 grams of hydrogen?
6. How many grams of nitrogen react with 6 grams of hydrogen?
7. How many grams of hydrogen react with 56 grams of nitrogen?
8. How many grams of nitrogen is required to obtain 17 grams of ammonia?
9. How many liters of nitrogen is required to obtain 22.4 liters of ammonia?
10. How many litters of hydrogen is required to obtain 22.4 liters of ammonia?