

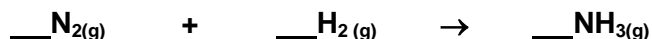
## Chem 20: Intro to Stoichiometry

### Balancing Equations and the Mole Ratio

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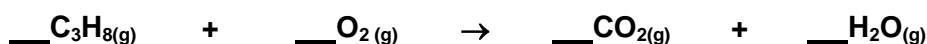
For the following questions, balance each equation and fill in the blanks. The blanks are asking you to figure out how many moles of reactant or product are required or produced according to the information that you are given.

1. Ammonia is made out of its elements.



1 mol N <sub>2(g)</sub>	_____	_____
3.0 mol N <sub>2(g)</sub>	_____	_____
0.5 mol N <sub>2(g)</sub>	_____	_____

2. Propane is combusted.



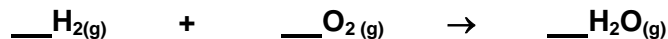
_____	0.50 mol O <sub>2(g)</sub>	_____	_____
_____	_____	6.0 mol CO <sub>2(g)</sub>	_____
4.0 mol C <sub>3</sub> H <sub>8(g)</sub>	_____	_____	_____

3. When heated, salt decomposes into its elements.



_____	_____	3.00 mol Cl <sub>2(g)</sub>
_____	7.00 mol Na <sub>(l)</sub>	_____
4.00 mol NaCl <sub>(l)</sub>	_____	_____

4. Hydrogen and oxygen react to make water.



_____	1.00 mol O <sub>2(g)</sub>	_____
_____	_____	6.00 mol H <sub>2</sub> O <sub>(g)</sub>
5.5 mol H <sub>2(g)</sub>	_____	_____

*For the following, write out the balanced equations and answer the questions.*

5. Copper is added to a solution of silver nitrate and 2 moles of silver are produced.  
a. What is the balanced chemical equation?

b. How many moles of the other product were produced?

c. How many moles of copper and silver nitrate are required?

6. How much does 4.00 moles of sodium chloride weigh in grams?

7. How many moles of carbon dioxide are in 4000kg of the gas?

8. Calculate the molar mass of a 5.00 mol sample of gas that weighs 25.00g