

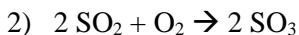
CHEM TEAM PROBLEMS: MOLE RATIOS (#2)

Write all mole ratios as fractions, converting from A to B: $\frac{\text{mol B (new)}}{\text{mol A (old)}}$

Part 1: Following each equation are two requests for molar ratios from the equation.



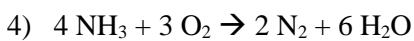
Write the molar ratios for N_2 to H_2 , and NH_3 to H_2 .



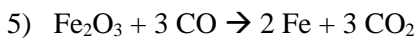
Write the molar ratios for O_2 to SO_3 , and O_2 to SO_2 .



Write the molar ratios for PCl_3 to Cl_2 , and PCl_3 to PCl_5 .



Write the molar ratios for NH_3 to N_2 , and H_2O to O_2 .



Write the molar ratios for CO to CO_2 , and Fe to CO .

Part 2 For # 6-8, use this equation: $2 \text{H}_2 + \text{O}_2 \rightarrow 2 \text{H}_2\text{O}$

6) How many moles of H_2O are produced when 5.00 moles of oxygen are used?

7) If 3.00 moles of H_2O are produced, how many moles of oxygen must be consumed?

8) How many moles of hydrogen gas must be used, given the data in problem 7?

For #9, use the following equation: $2 \text{KClO}_3 \rightarrow 2 \text{KCl} + 3 \text{O}_2$

9) How many moles of O_2 can be produced by letting 12.00 moles of KClO_3 react?

Part 3 Given the following equation: $2 \text{C}_4\text{H}_{10} + 13 \text{O}_2 \rightarrow 8 \text{CO}_2 + 10 \text{H}_2\text{O}$, show what the following molar ratios should be. The mole fractions are already set up as mol B/mol A.

