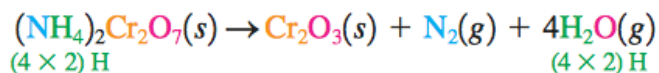


➡ 2 The unbalanced equation is

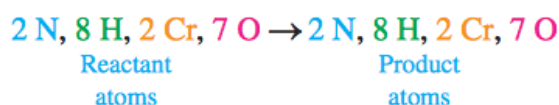


➡ 3 Note that nitrogen and chromium are balanced (two nitrogen atoms and two chromium atoms on each side), but hydrogen and oxygen are not. A coefficient of 4 for H_2O balances the hydrogen atoms:



Note that in balancing the hydrogen we also have balanced the oxygen, since there are seven oxygen atoms in the reactants and in the products.

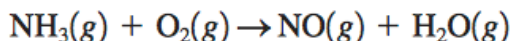
Reality Check:



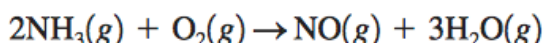
The equation is balanced.

Example 2:

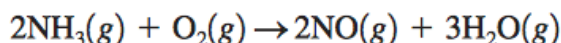
The unbalanced equation for the reaction is



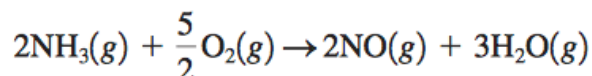
Because all the molecules in this equation are of about equal complexity, where we start in balancing it is rather arbitrary. Let's begin by balancing the hydrogen. A coefficient of 2 for NH_3 and a coefficient of 3 for H_2O give six atoms of hydrogen on both sides:



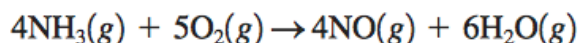
The nitrogen can be balanced with a coefficient of 2 for NO :



Finally, note that there are two atoms of oxygen on the left and five on the right. The oxygen can be balanced with a coefficient of $\frac{5}{2}$ for O_2 :



However, the usual custom is to have whole-number coefficients. We simply multiply the entire equation by 2.



Reality Check: There are 4 N, 12 H, and 10 O on both sides, so the equation is balanced.