PRACTICE

Balance the following equations using the appropriate coefficients. Remember that balancing one element may temporarily unbalance another. You will have to correct the imbalance in the final equation. Check your work by counting the total number of atoms of each element—the numbers should be equal on the reactant and product sides of the equation. Remember, the equations **cannot** be balanced by changing subscript numbers!

1. $Al + O_2 \rightarrow Al_2O_3$
2. $CO + H_2 \rightarrow H_2O + CH_4$
3. $HgO \rightarrow Hg + O_2$
4. $CaCO_3 \rightarrow CaO + CO_2$
5. $C + Fe_2O_3 \rightarrow Fe + CO_2$
6. $N_2 + H_2 \rightarrow NH_3$
7. $K + H_2O \rightarrow KOH + H_2$
8. $P + O_2 \rightarrow P_2O_5$
9. $Ba(OH)_2 + H_2SO_4 \rightarrow H_2O + BaSO_4$
10. $CaF_2 + H_2SO_4 \rightarrow CaSO_4 + HF$
11. $KClO_3 \rightarrow KClO_4 + KCl$

1) $4Al + 3O_2 \rightarrow 2Al_2O_3$

2) $CO + 3H_2 \rightarrow H_2O + CH_4$

3) $2HgO \rightarrow 2Hg + O_2$

4) $CaCO_3 \rightarrow CaO + CO_2$

5) $3C + 2Fe_2O_3 \rightarrow 4Fe + 3CO_2$

6) $N_2 + 3H_2 \rightarrow 2NH_3$

7) $2K + 2H_2O \rightarrow 2KOH + H_2$

8) $4P + 5O_2 \rightarrow 2P_2O_5$

9) $Ba(OH)_2 + H_2SO_4 \rightarrow 2H_2O + BaSO_4$

10) $CaF_2 + H_2SO_4 \rightarrow CaSO_4 + 2HF$

11) $4KClO_3 \rightarrow 3KClO_4 + KCl$