Balance the following equations.

Remember that the number of atoms of each type should be the same on the left and the right parts of the equation!

E.g. <u>unbalanced equation</u>: $K + H_2O \rightarrow KOH + H_2$

(there are 2 H on the left but 3 on the right. There should be as many atoms of each element after the reaction as before it – remember mass conservation law!)

<u>The same equation balanced</u>: $2K + 2H_2O \rightarrow 2KOH + H_2$ (there are 2 K on each side, 2 O on each side and 4 H on each side).



 $Al(s) + Fe_2O_3(s) \triangleq Al_2O_3(s) + Fe(s)$ $KClO_3(s) \triangleq KCl(s) + O_2(g)$ $C_4H_{10}(g) + O_2(g) \rightarrow CO_2(g) + H_2O(g)$ $N_2(g) + H_2(g) \rightarrow NH_3(g)$ $P_4(s) + F_2(g) \rightarrow PF_5(g)$ $Zn(NO_3)_2(s) \triangleq ZnO(s) + NO_2(g) + O_2(g)$ $H_3PO_4(l) \triangleq H_2O(l) + P_4O_{10}(s)$ $Cu(s) + AgNO_3(aq) \rightarrow Cu(NO_3)_2(aq) + Agl$ $Fe(s) + O_2(g) \rightarrow Fe_2O_3(s)$ $FeCl_3(s) + H_2O(l) \rightarrow HCl(aq) + Fe(OH)_3l$