## 06/04/24

## Balance the following unbalanced equations

$$SiO_2(s) + HF(g) \rightarrow SiF_4(g) + H_2O(I)$$

$$FeS_2(s) + O_2(g) \rightarrow Fe_2O_3(s) + SO_2(g)$$

$$Mg_3N_2(s) + H_2O(l) \rightarrow NH_3(g) + Mg(OH)_2(s)$$

$$\mathsf{KNO_3(s)} + \mathsf{C_{12}H_{22}O_{11}(s)} \to \mathsf{N_2(g)} + \mathsf{CO_2(g)} + \mathsf{H_2O}\left(\mathsf{I}\right) + \mathsf{K_2CO_3(s)} *** \mathsf{THIS} \ \mathbf{ONE} \ \mathsf{IS} \ \mathsf{SUPER} \ \mathsf{EVIL}***$$

$$Ca_5F(PO_4)_3(s) + H_2SO_4(aq) \rightarrow Ca(H_2PO_4)_2(s) + CaSO_4(s) + HF(g)$$

$$U_3O_8(s) + HNO_3(aq) \rightarrow UO_2(NO_3)_2(s) + NO_2(g) + H_2O(l)$$

Write both the balanced total ionic equation and the balanced net ionic equation for what happens when a solution of aluminum nitrate is mixed with a solution of sodium carbonate.
Write both the balanced total ionic equation and the balanced net ionic equation for what happens when a solution of magnesium nitrate is mixed with a solution of ammonium carbonate.
Write both the balanced total ionic equation and the balanced net ionic equation for what happens when a solution of potassium chloride is mixed with a solution of aluminum nitrate.