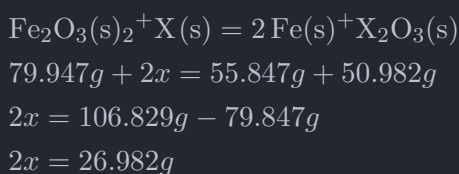# Ap Chem Summer Assignment #3

lol u thought you would get my name

August 21, 2021

1 The following reaction was performed, Identify element X.

$$Fe_2O_3(s)_2 {}^+ X(s) = 2\,Fe(s) {}^+ X_2O_3(s)$$
$$79.947g + 2x = 55.847g + 50.982g$$
$$2x = 106.829g - 79.847g$$
$$2x = 26.982g$$

Since the atomic weight of $2\,Fe$ is the same as the given weight $(55.847g)$, the atomic weight of 2x is $26.982g$ or Aluminium (Al)

2 Balance the following equations

1. $2\,AgI {}^+ Na_2S \rightarrow 2\,Ag_2S {}^+ NaI$

2. $(NH_4)_2Cr_2O_7 \rightarrow Cr_2O_3 {}^+ N_2 {}^+ {}_4H_2O$

3. $Na_3PO_4 {}^+ {}_3HCl \rightarrow 3\,NaCl {}^+ H_3PO_4$

4. $TiCl_4 {}^+ {}_2H_2O \rightarrow TiO_2 {}^+ {}_4HCl$

5. $Ba_3N_2 {}^+ {}_6H_2O \rightarrow 3\,Ba(OH)_2 {}^+ {}_2NH_3$

6. $3\,HNO_2 {}^+ HNO_3 \rightarrow 2\,NO {}^+ H_2O$