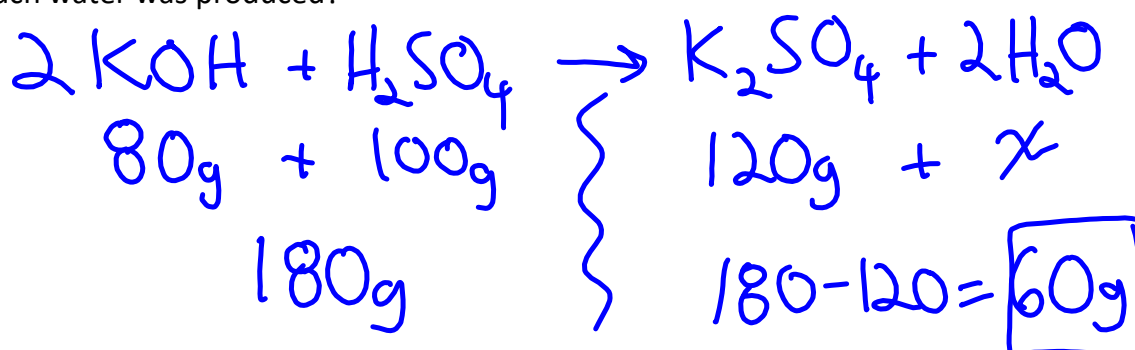
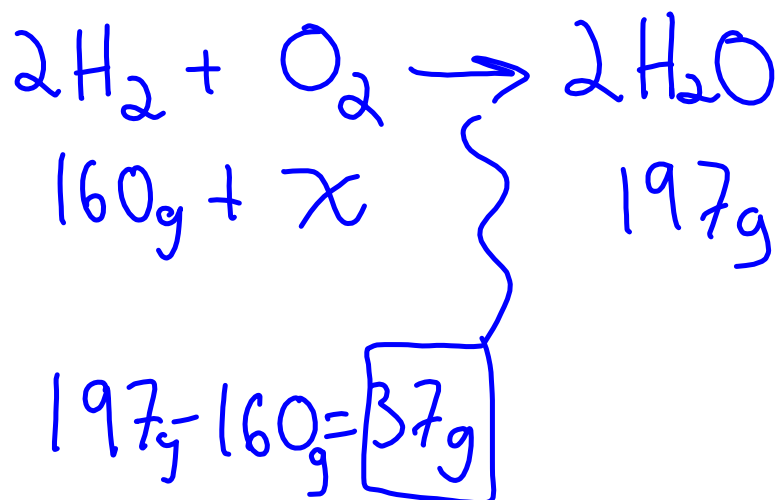


Mass of Equations

1. You combined 80 g of 2 KOH with 100 g of H_2SO_4 to produce 120 g of K_2SO_4 and 2 H_2O . How much water was produced?

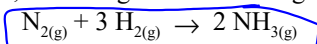


2. You combined 160 g of 2 H_2 with O_2 and produced 197 g of 2 H_2O . How much O_2 was produced?



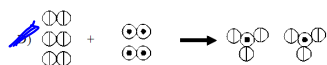
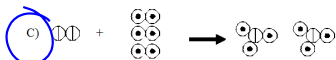
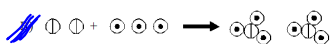
Past Exam Questions

1. One litre of nitrogen (N₂) reacts with three litres of hydrogen (H₂) to produce two litres of ammonia, according to the following equation :



Which of the following models best describes the chemical change that occurs?

hydrogen : ○○ nitrogen (⊓⊓)



2. Which of the following chemical equations are correctly balanced?

- ✓ 1. $4 \text{Bi}_{(s)} + 3 \text{O}_{2(g)} \rightarrow 2 \text{Bi}_2\text{O}_{3(s)}$
 - ✗ 2. $2 \text{Bi}_{(s)} + \text{Cl}_{2(g)} \rightarrow 2 \text{BiCl}_{3(s)}$
 - ✗ 3. $2 \text{Bi}_2\text{S}_3(s) + 9 \text{O}_{2(g)} \rightarrow 2 \text{BiO}_3(s) + 6 \text{SO}_2(g)$
 - ✓ 4. $\text{Bi}_2\text{O}_3(s) + 3 \text{C}_{(s)} \rightarrow 2 \text{Bi}_{(s)} + 3 \text{CO}_{(g)}$
 - ✓ 5. $\text{As}_2\text{O}_3(s) + 6 \text{H}_{2(g)} \rightarrow 2 \text{AsH}_3(s) + 3 \text{H}_2\text{O}_{(g)}$
- A) 1, 3 and 4 C) 3, 4 and 5
 B) 1, 4 and 5 D) 2 and 3

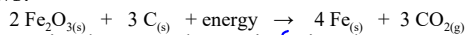
3. One of the causes of acid rain is the sulfur released when fossil fuels such as coal and oil are burned. The following two reactions take place when these fuels are burned:

sulfur dioxide 128g	+	oxygen 32g	→	sulfur trioxide 160g
sulfur trioxide 160g	+	water 36g	→	sulfuric acid ?

196g

With the above reactions in mind, a student combined 128 g of sulfur dioxide with 32 g of oxygen to produce sulfur trioxide. He then combined all the resulting sulfur trioxide with 36 g of water to produce sulfuric acid. What mass of sulfuric acid did he produce?

4. The Iron and Steel Company uses a chemical reaction to transform ferric oxide (rust) into iron. The balanced equation for this reaction is as follows:



To determine how much CO₂ it emits, the company took a sample and obtained the data presented in the table below

Masses of the four Substances before and after the reaction

Substance	Initial Mass (g)	Final Mass (g)
Fe ₂ O ₃	80	0
C	9	0
Fe	0	55
CO ₂	0	?

89g

Using the law of conservation of matter, calculate the mass of CO₂ emitted during this reaction.

89 - 55 = 34g CO₂