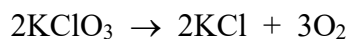


IGCSE Review Q

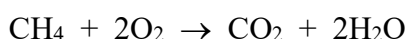
- 1 In the decomposition of KClO_3 , 6.30 mol of oxygen was produced:



How many moles of KCl would be produced?

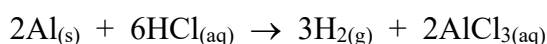
- A 4.20 B 6.30 C 12.6 D 18.9

- 2 What is the minimum number of grams of O_2 ($M_r = 32$) required to burn 1.6 grams of CH_4 ($M_r = 16$) according to the equation below?



- A 1.6 B 3.2 C 6.4 D 32

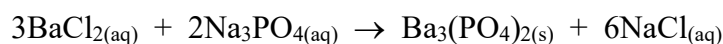
- 3 Aluminium reacts with hydrochloric acid to produce hydrogen gas according to the equation below:



Which expression gives the number of moles of hydrogen that can be produced from 0.24 moles of Al and excess hydrochloric acid?

- A $0.24 \times (3/2)$
 B $0.24 \times (2/3)$
 C $0.24 \times (3/6)$
 D $0.24 \times (6/2)$

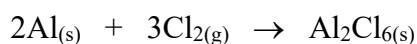
- 4 The balanced equation for the reaction BaCl_2 with Na_3PO_4 is



How many moles of NaCl could be produced from 2 moles of BaCl_2 and excess Na_3PO_4 ?

- A 1 B 2 C 3 D 4

- 5 Aluminium chloride may be prepared as follows:



Calculate the mass of aluminium required to produce 26.7 g of aluminium chloride.

[3]

Moles $\text{Al}_2\text{Cl}_6 = 0.1$

Moles $\text{Al} = 0.2$

Mass $\text{Al} = 5.4\text{g}$

IGCSE Review Q

6 Potassium nitrate decomposes at 400°C according to the following equation:



Calculate the mass of oxygen produced, measured at room temperature and pressure, when 101 g of potassium nitrate are completely decomposed. [3]

Moles $\text{KNO}_3 = 1$

Moles $\text{O}_2 = 0.5$

Mass $\text{O}_2 = 16\text{g}$

7 The rate of the reaction between calcium carbonate (limestone) and hydrochloric acid may be followed by measuring the mass of carbon dioxide given off at certain times. The equation for the reaction is:



Calculate the mass of carbon dioxide that is obtained when excess hydrochloric acid is reacted with 20.00 g of limestone. [3]

Moles limestone = 0.2

Moles $\text{CO}_2 = 0.2$

Mass $\text{CO}_2 = 8.8\text{g}$

8 Calcium carbonate decomposes according to the equation:



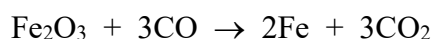
Calculate the mass of calcium oxide obtained when 50.0 kg of calcium carbonate is decomposed. [3]

Moles $\text{CaCO}_3 = 500$

Moles $\text{CaO} = 500$

Mass $\text{CaO} = 28\text{Kg}/28000\text{g}$

9 Iron ore is converted into iron as shown in the equation below:



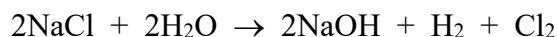
Calculate the mass of iron (III) oxide required to produce 7000 kg of iron. [3]

Moles $\text{Fe} = 125000$

Moles $\text{Fe}_2\text{O}_3 = 62500$

Mass $\text{Fe}_2\text{O}_3 = 10000\text{Kg}$

10 A process for the production of sodium hydroxide, chlorine and hydrogen from brine (sodium chloride solution) can be summarised by the equation:



Calculate the maximum mass of hydrogen that could be made from 117 g of sodium chloride. [3]

Moles $\text{NaCl} = 2$

Moles $\text{H}_2 = 1$

Mass $\text{H}_2 = 2\text{g}$