

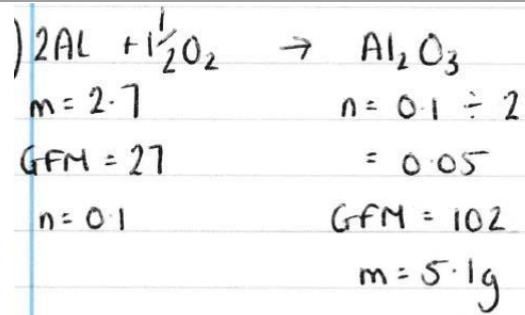
## Answers Calculations from Equations



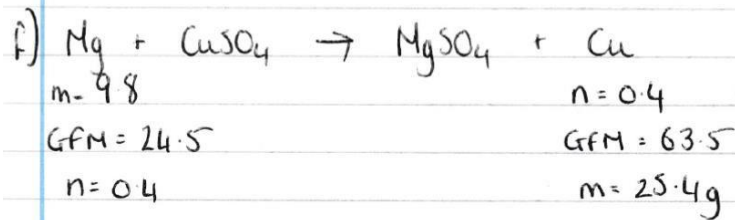
Answers to Calculations from Equations Revision Exercises:

-Question1-	
a) 11g	$\text{CH}_4 + 2\text{O}_2 \rightarrow \text{CO}_2 + 2\text{H}_2\text{O}$ $m = 4 \quad n = 0.25$ $\text{GFM} = 16 \quad \text{GFM} = 44$ $n = 0.25 \quad m = 11\text{g}$
b) 19.1g	$\text{Mg} + \text{Cl}_2 \rightarrow \text{MgCl}_2$ $m = 4.9 \quad n = 0.2$ $\text{GFM} = 24.5 \quad \text{GFM} = 95.5$ $n = 0.2 \quad m = 19.1\text{g}$
c) 11.7g	$\text{Na}_2\text{CO}_3 + 2\text{HCl} \rightarrow 2\text{NaCl} + \text{CO}_2 + \text{H}_2\text{O}$ $m = 10.6 \quad n = 2 \times (0.1)$ $\text{GFM} = 106 \quad = 0.2$ $n = 0.1 \quad \text{GFM} = 58.5$ $m = 11.7\text{g}$
d) 12.0g	$\text{N}_2 + 3\text{H}_2 \rightarrow 2\text{NH}_3$ $m = 56 \quad n = 3 \times (2)$ $\text{GFM} = 28 \quad = 6$ $n = 2 \quad \text{GFM} = 2$ $m = 12\text{g}$

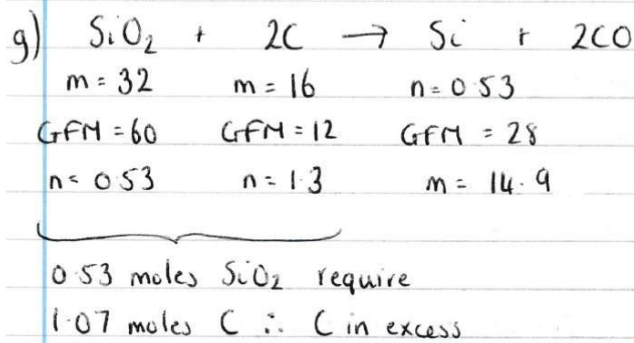
e) 5.1g



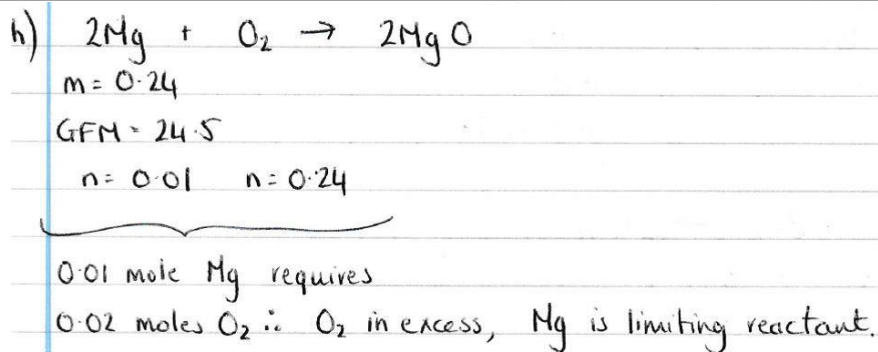
f) 25.4g



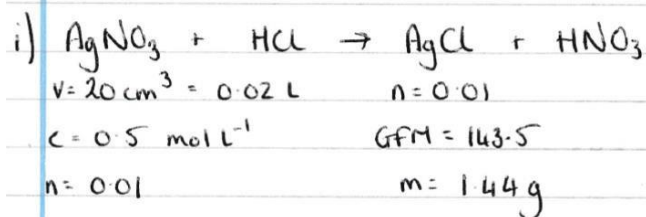
g) 0.53 moles SiO<sub>2</sub>, 1.07 moles C: Carbon in excess



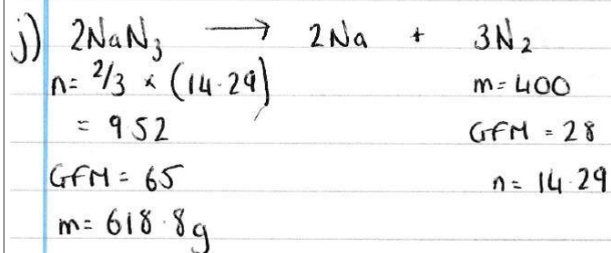
h) 0.01 moles Mg requires 0.02 moles O<sub>2</sub>: O<sub>2</sub> in excess, Mg is limiting reactant



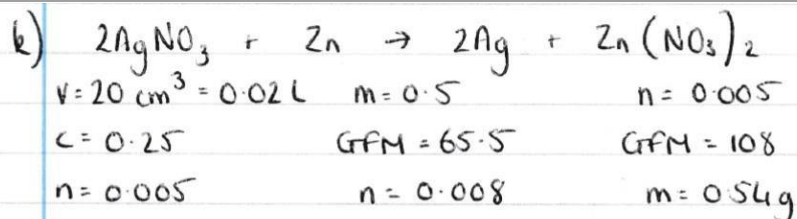
i) 1.44g



j) 618.8g

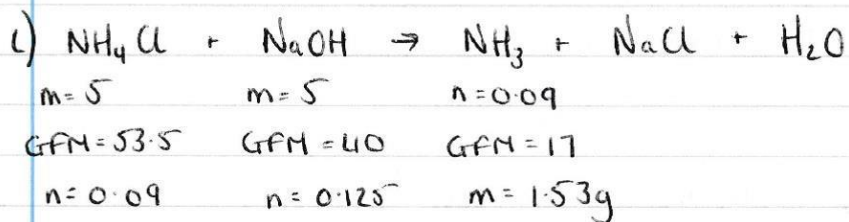


k) 0.005 moles AgNO<sub>3</sub> requires 0.0025 moles Zn: Zn is in excess



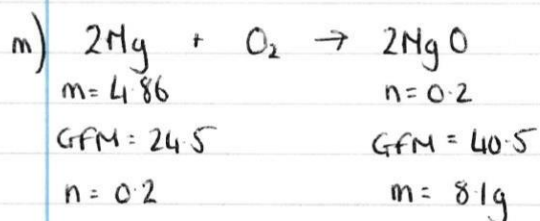
0.005 moles AgNO<sub>3</sub> requires 0.0025 moles Zn ∴ Zn is in excess

l) NaOH is in excess

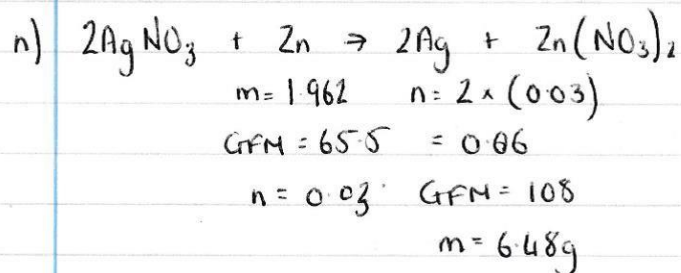


NaOH is in excess

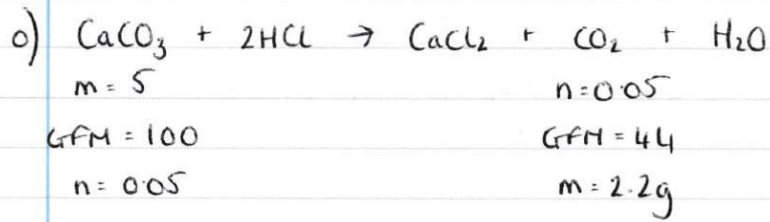
m) 8.1g



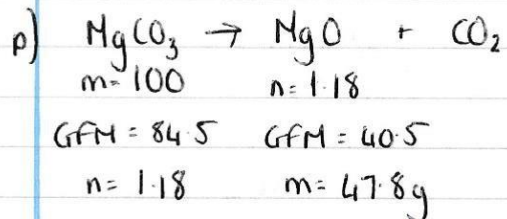
n) 6.48g



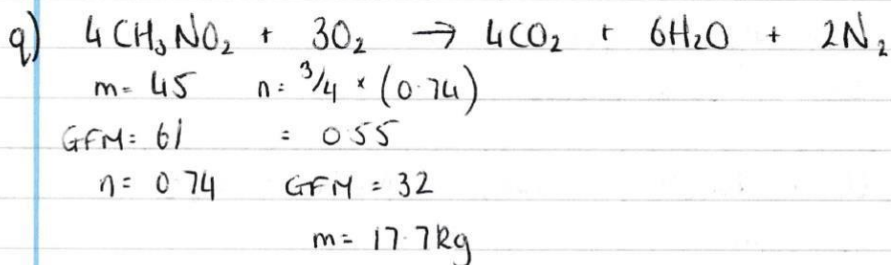
o) 2.2g



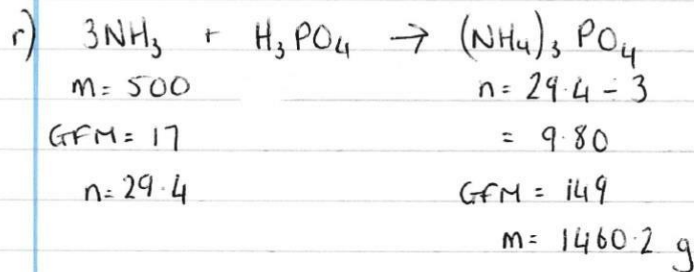
p) 47.8g



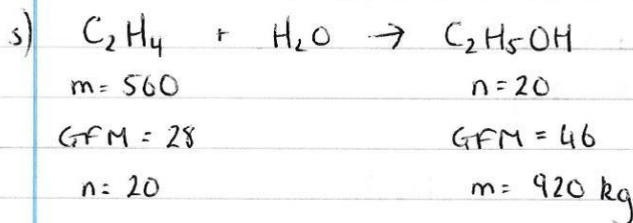
q) 17.7kg



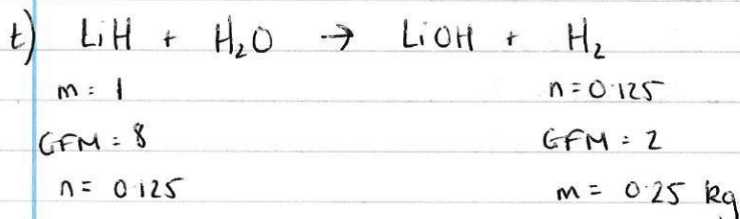
r) 1460.2g [1.46 kg]



s) 920kg



t) 0.25 kg





b) 352 tonnes

c) 299.64 tonnes



b)  $m = 114$   $n = 1 \times 8$

$GFM = 114$   $= 8$

$n = 1$   $GFM = 44$

$m = 352$  tonnes

c)  $n = 100/44 = 2.27$   $n = 3 \times (2.27) = 6.81$   $m = 6.81 \times 44$   
 $= 299.64$  tonnes