

**Paper Reference(s) 4CH1/1C 4SD0/1C  
Pearson Edexcel International GCSE (9–1)**

**Chemistry**

**UNIT: 4CH1**

**Science (Double Award) 4SD0**

**PAPER: 1C**

## **Diagram Booklet**

**In the boxes below, write your name, centre number and candidate number.**

<b>Surname</b>					
<b>Other names</b>					
<b>Centre Number</b>					
<b>Candidate Number</b>					

## **INSTRUCTIONS**

**There may be spare copies of some diagrams in case you need them.**

**THIS DIAGRAM BOOKLET MUST BE  
RETURNED WITH THE QUESTION PAPER  
AT THE END OF THE EXAMINATION.**

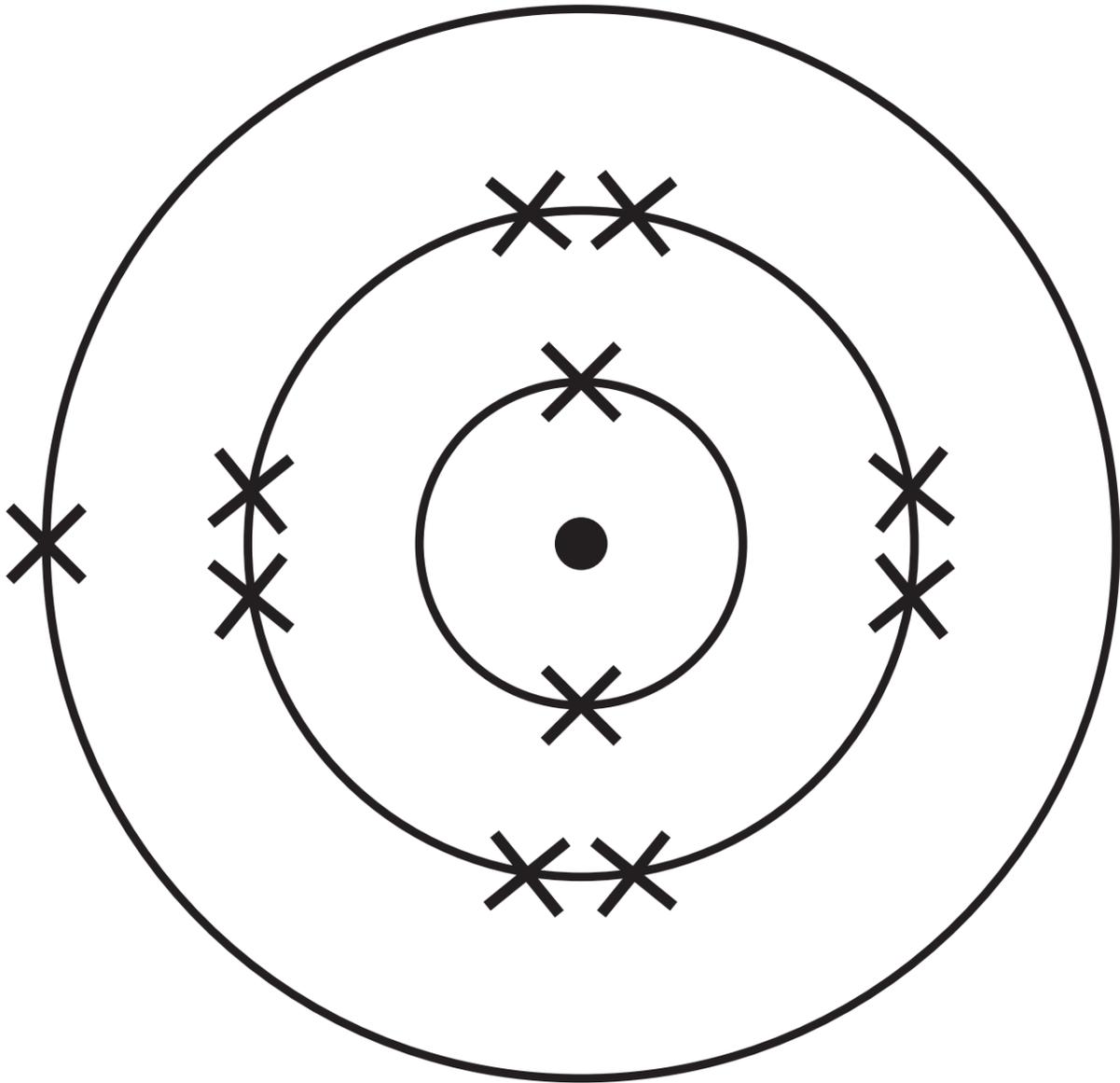
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# Question 1



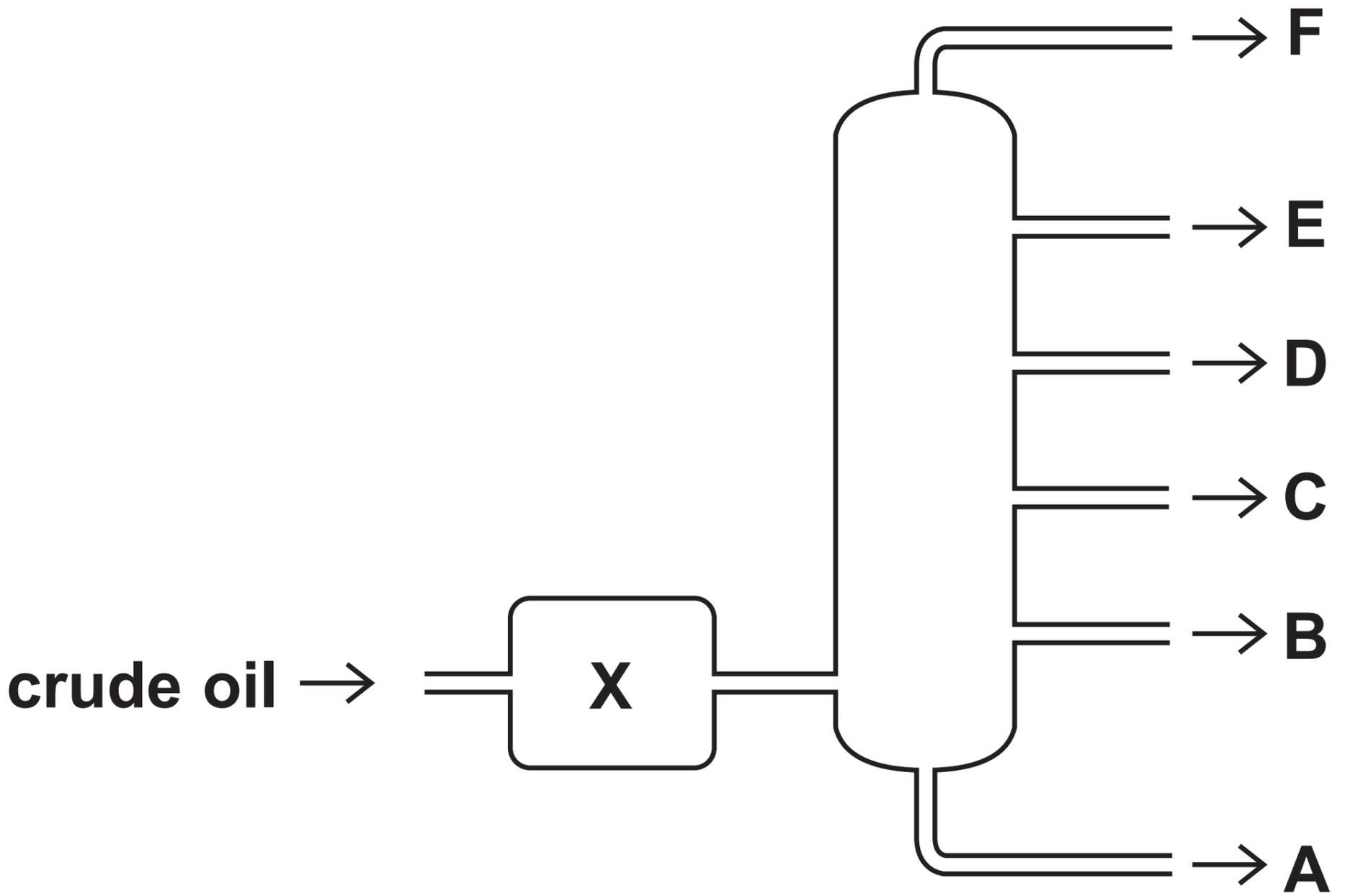
## Question 2(a)

<b>Physical change</b>	<b>Change of state</b>
<b>water to ice</b>	
<b>steam to water</b>	
<b>solid wax to liquid wax</b>	
<b>iodine crystals to iodine vapour</b>	

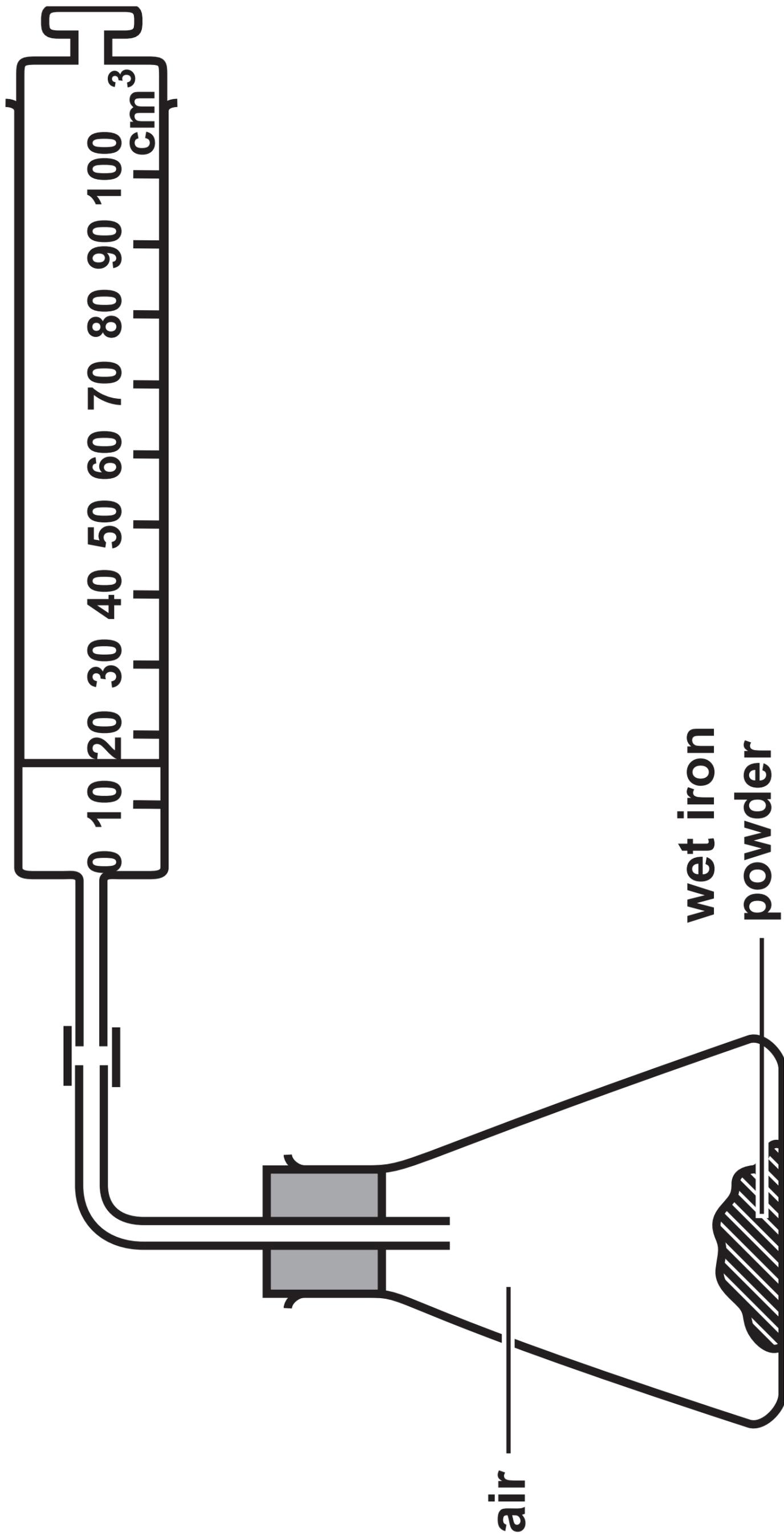
**Question 2(a)**

<b>Physical change</b>	<b>Change of state</b>
<b>water to ice</b>	
<b>steam to water</b>	
<b>solid wax to liquid wax</b>	
<b>iodine crystals to iodine vapour</b>	

Question 3(a)



Question 4(a)



## Question 4(b)

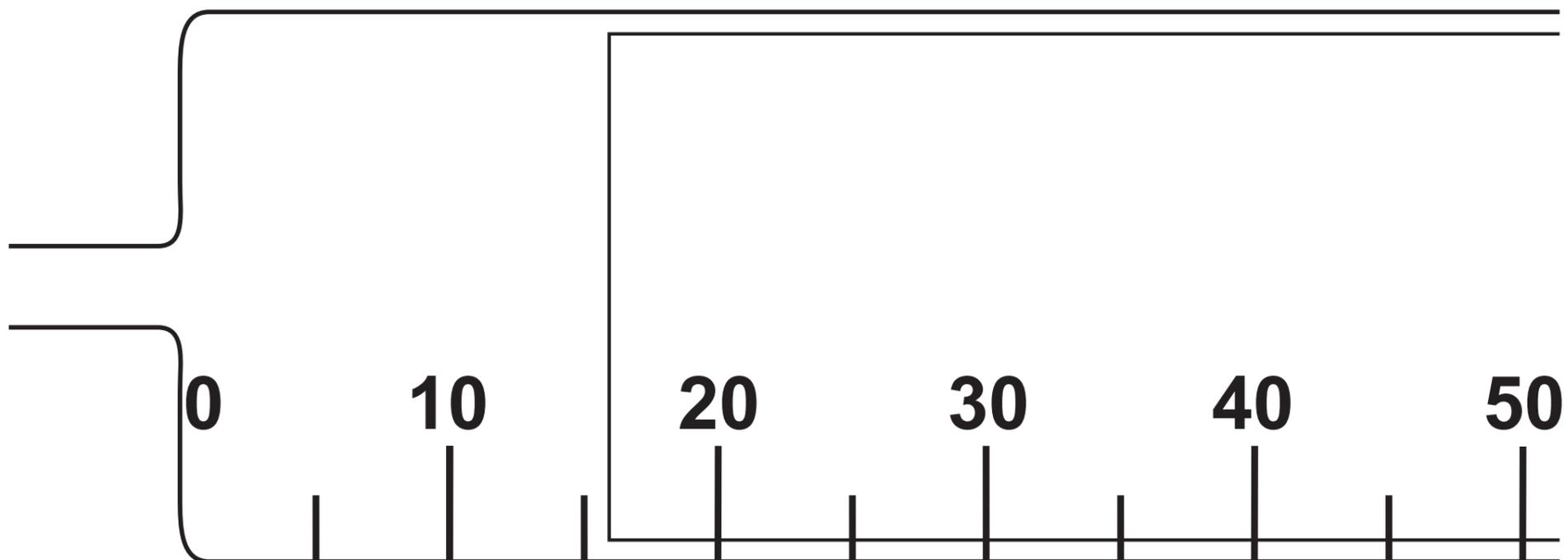


TABLE 1

<b>syringe reading at start</b>	
<b>syringe reading at end</b>	
<b>change in volume in <math>\text{cm}^3</math></b>	<b>65</b>

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Question 4(b)

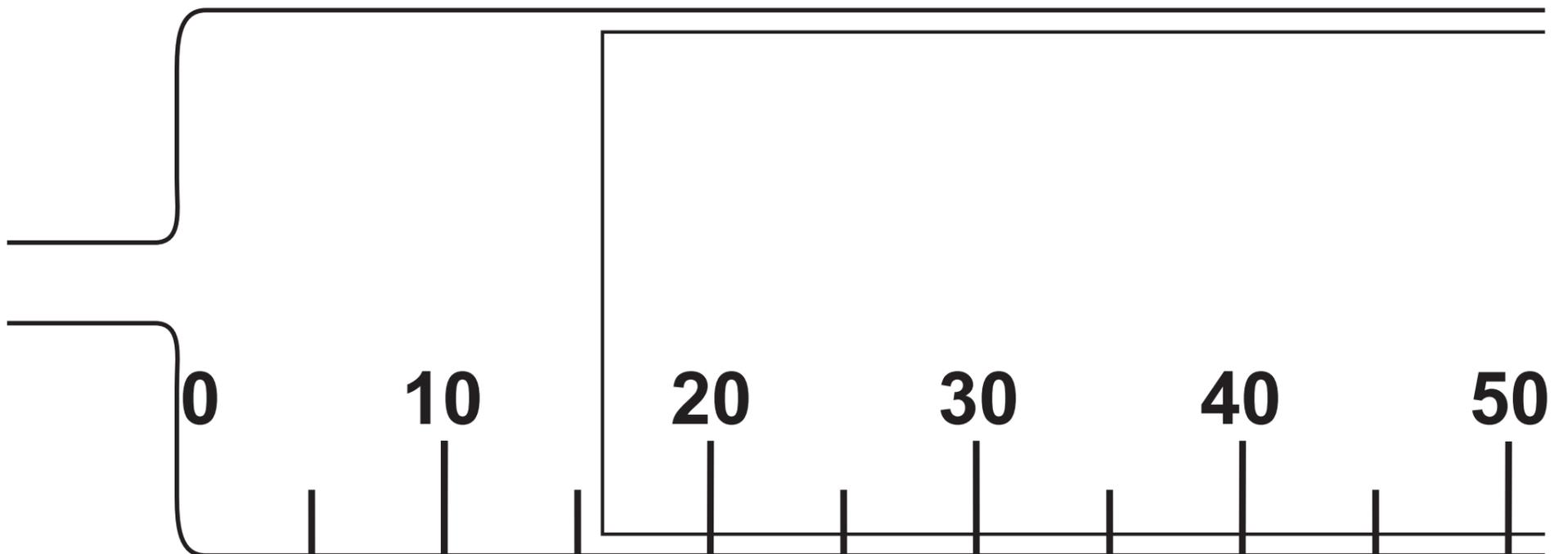


TABLE 1

<b>syringe reading at start</b>	
<b>syringe reading at end</b>	
<b>change in volume in <math>\text{cm}^3</math></b>	<b>65</b>

## Question 4(c)

TABLE 2

<b>volume of air in conical flask and glass tube in cm<sup>3</sup></b>	<b>260</b>
<b>syringe reading at start</b>	<b>90</b>
<b>syringe reading at end</b>	<b>22</b>

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**Question 5(a)(iv)**

**Isomer 1**

**Isomer 2**

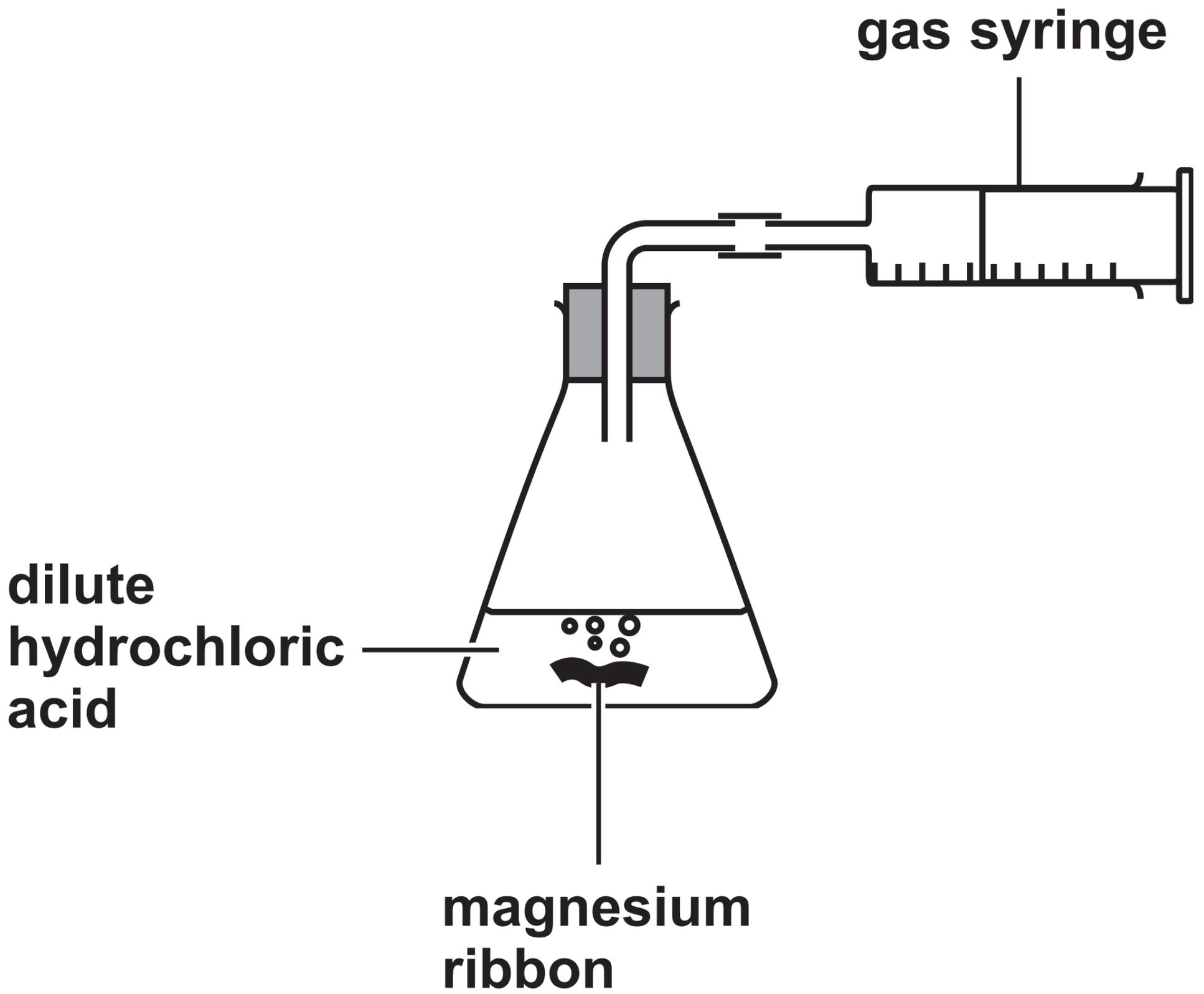
**Question 5(a)(iv)**

**Isomer 1**

**Isomer 2**

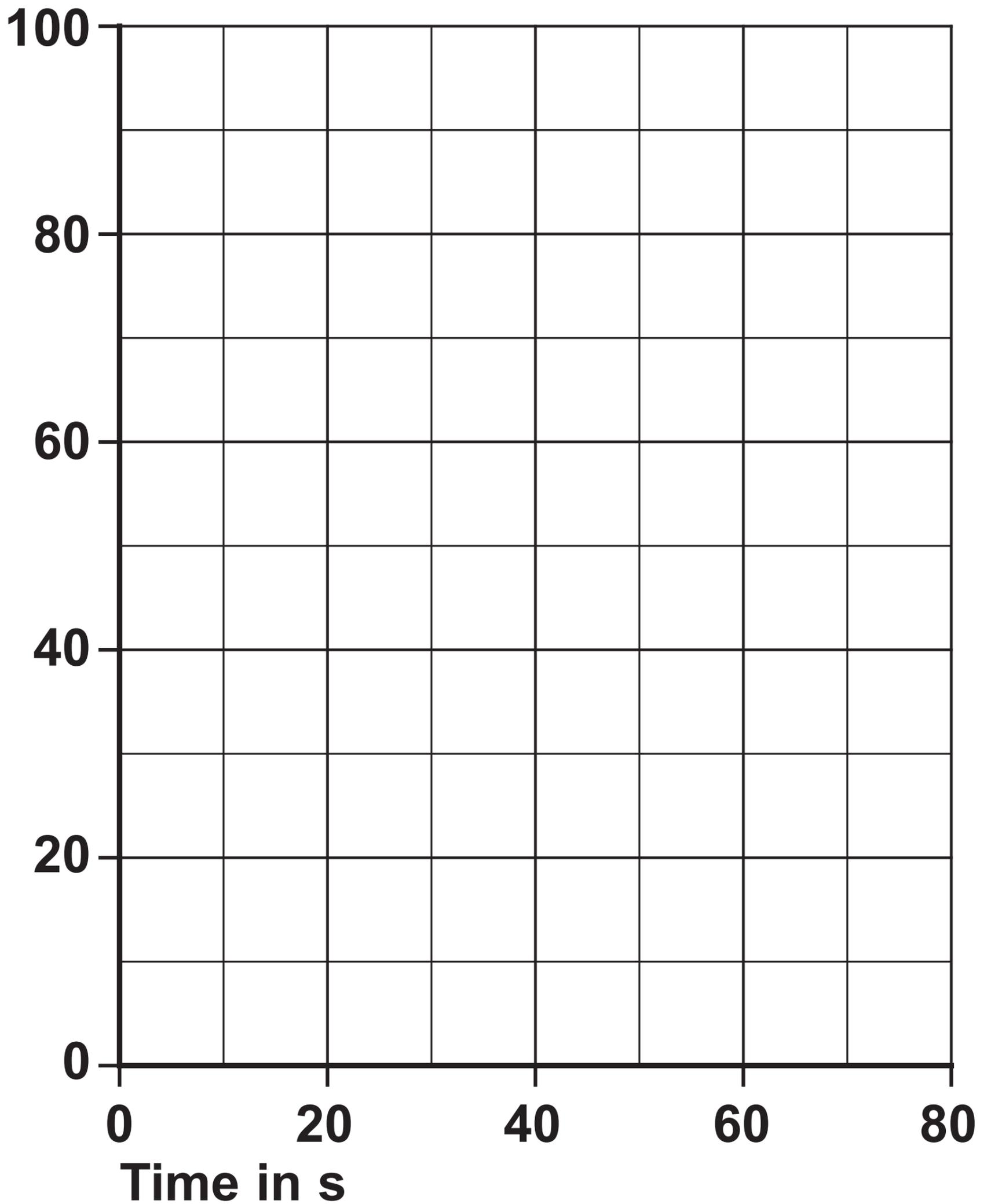
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Question 6



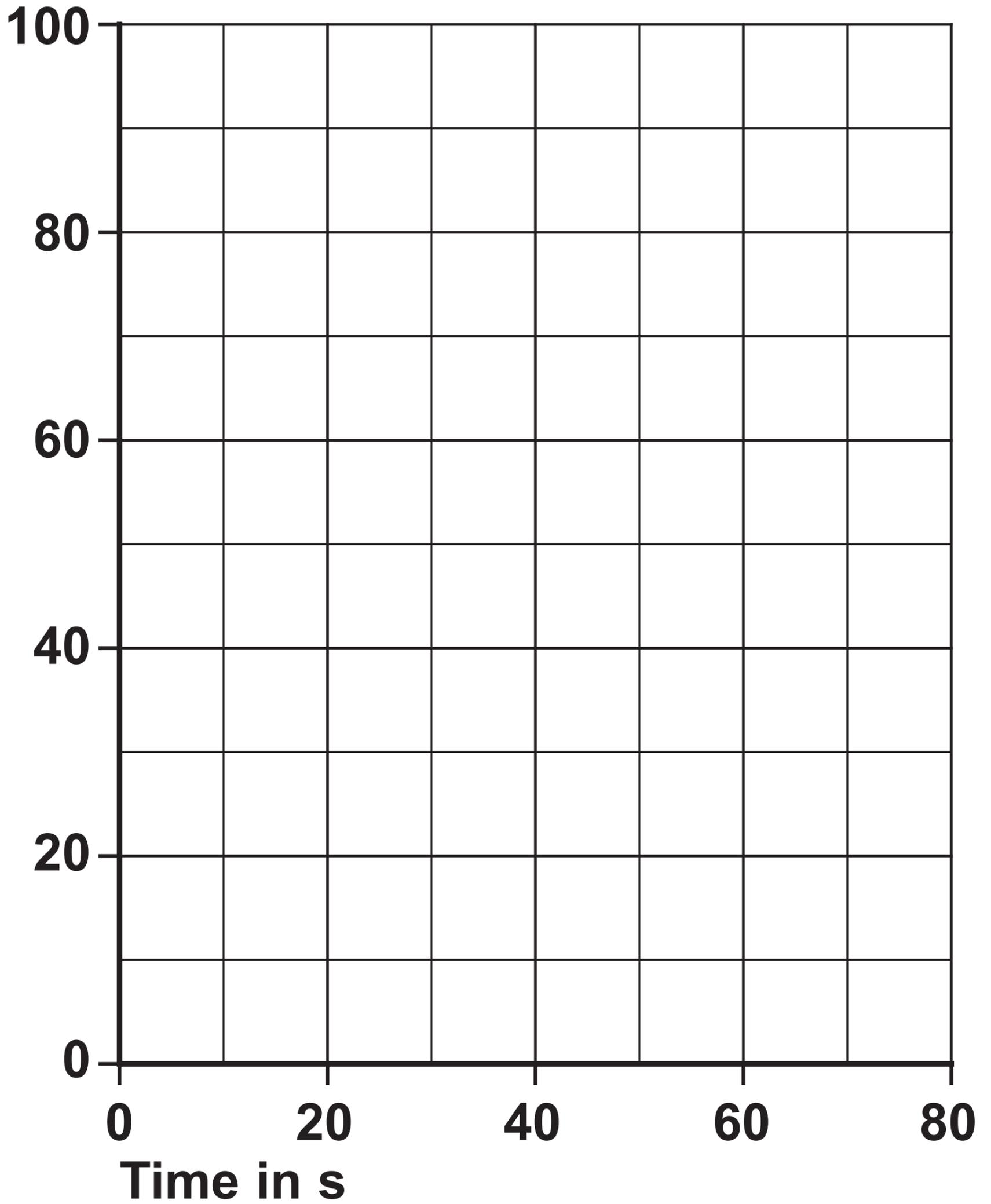
Question 6(b) and 6(c)

Volume of hydrogen in  $\text{cm}^3$



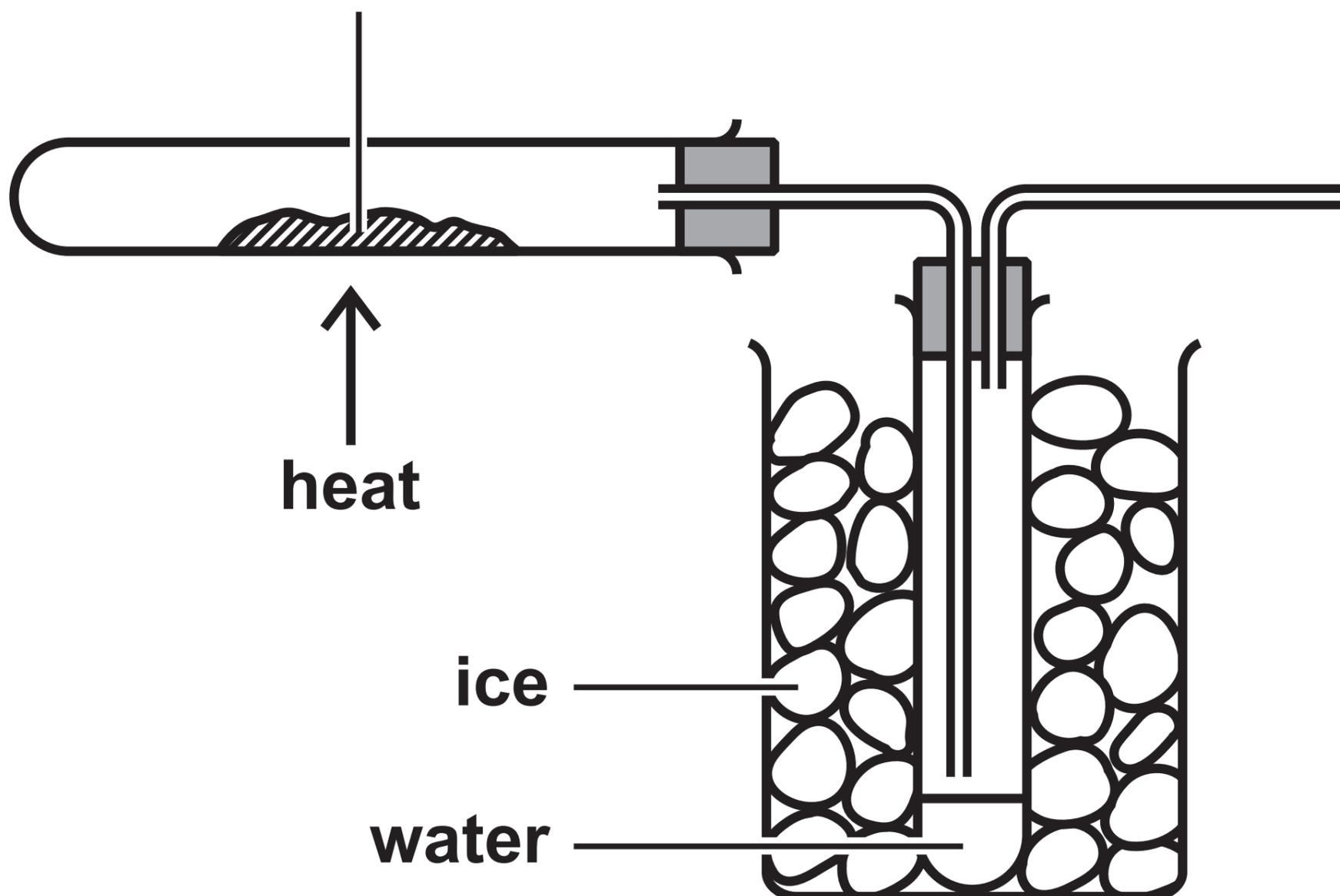
Question 6(b) and 6(c)

Volume of hydrogen in  $\text{cm}^3$



## Question 7(c)

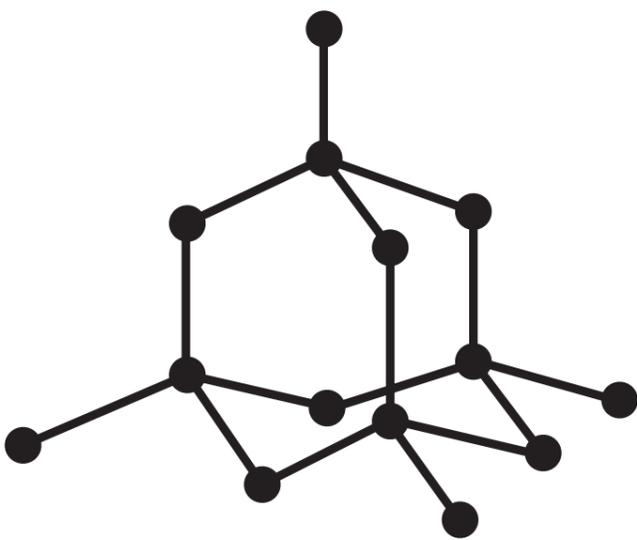
hydrated copper(II) sulfate



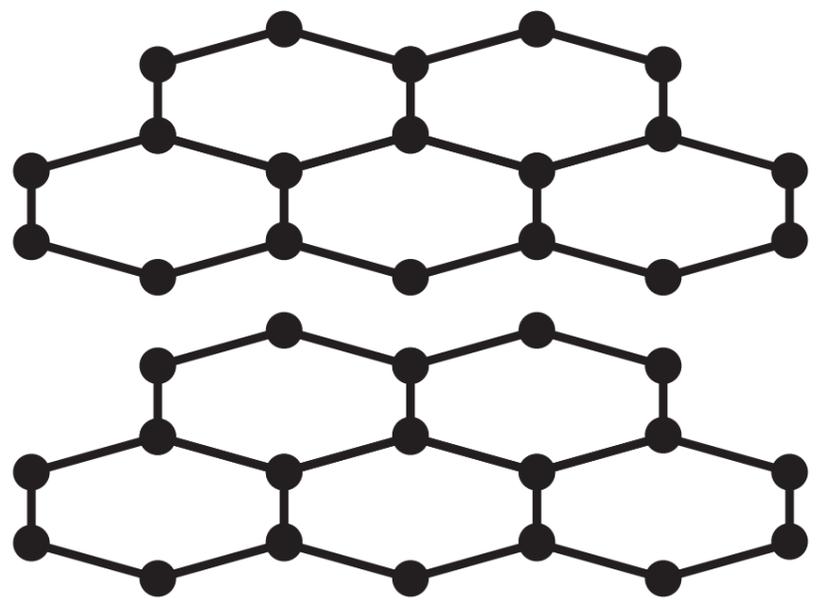
mass of empty tube in g	20.52
mass of tube and $\text{CuSO}_4 \cdot x\text{H}_2\text{O}$ in g	31.77
mass of tube and $\text{CuSO}_4$ in g	28.20

Question 8(a)

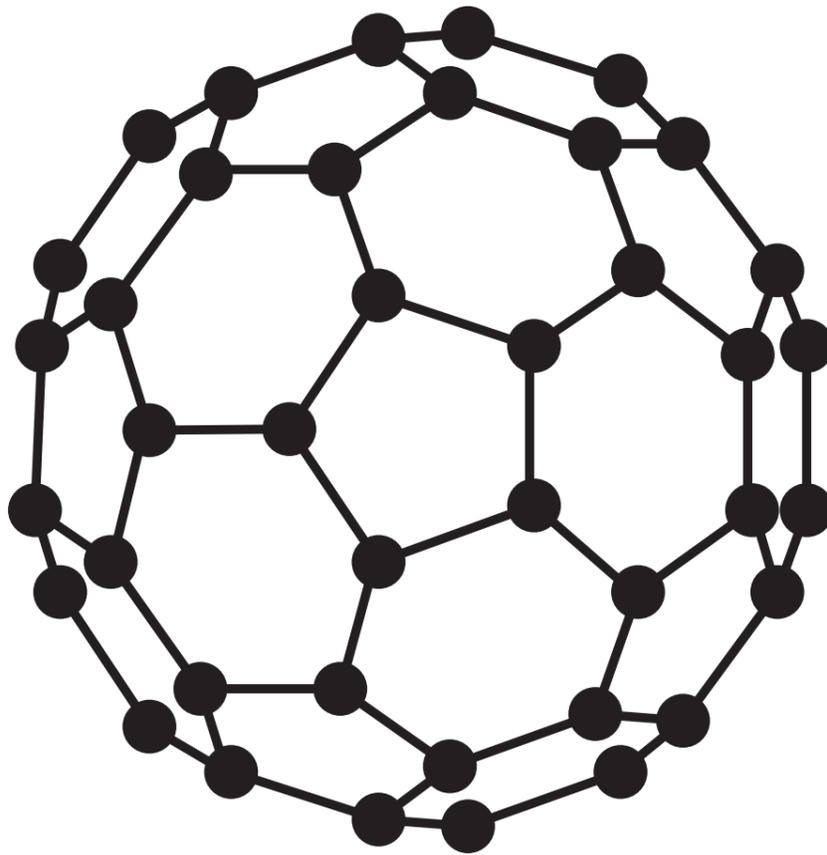
**Diamond**



**Graphite**



## Question 8(b)



<b>Substance</b>	<b>Approximate melting point in °C</b>
<b>diamond</b>	<b>4000</b>
<b>graphite</b>	<b>3600</b>
<b>C<sub>60</sub> fullerene</b>	<b>600</b>

## Question 10(b)

<b>Name</b>	<b>ammonium sulfate</b>		<b>ammonium carbonate</b>
<b>Formula</b>	<b>(NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub></b>	<b>NH<sub>4</sub>Cl</b>	

## Question 10(b)

<b>Name</b>	<b>ammonium sulfate</b>		<b>ammonium carbonate</b>
<b>Formula</b>	<b><math>(\text{NH}_4)_2\text{SO}_4</math></b>	<b><math>\text{NH}_4\text{Cl}</math></b>	

## Question 10(c)

<b>Name</b>	<b>Formula</b>	<b>Percentage of nitrogen (%)</b>	<b>Approximate pH in solution</b>
<b>ammonia</b>	<b><math>\text{NH}_3(\text{g})</math></b>	<b>82</b>	<b>11</b>
<b>ammonium nitrate</b>	<b><math>\text{NH}_4\text{NO}_3(\text{s})</math></b>		<b>5-5</b>
<b>ammonium sulfate</b>	<b><math>(\text{NH}_4)_2\text{SO}_4(\text{s})</math></b>	<b>21</b>	<b>5-5</b>