

Fuels & Alkanes

Question Paper

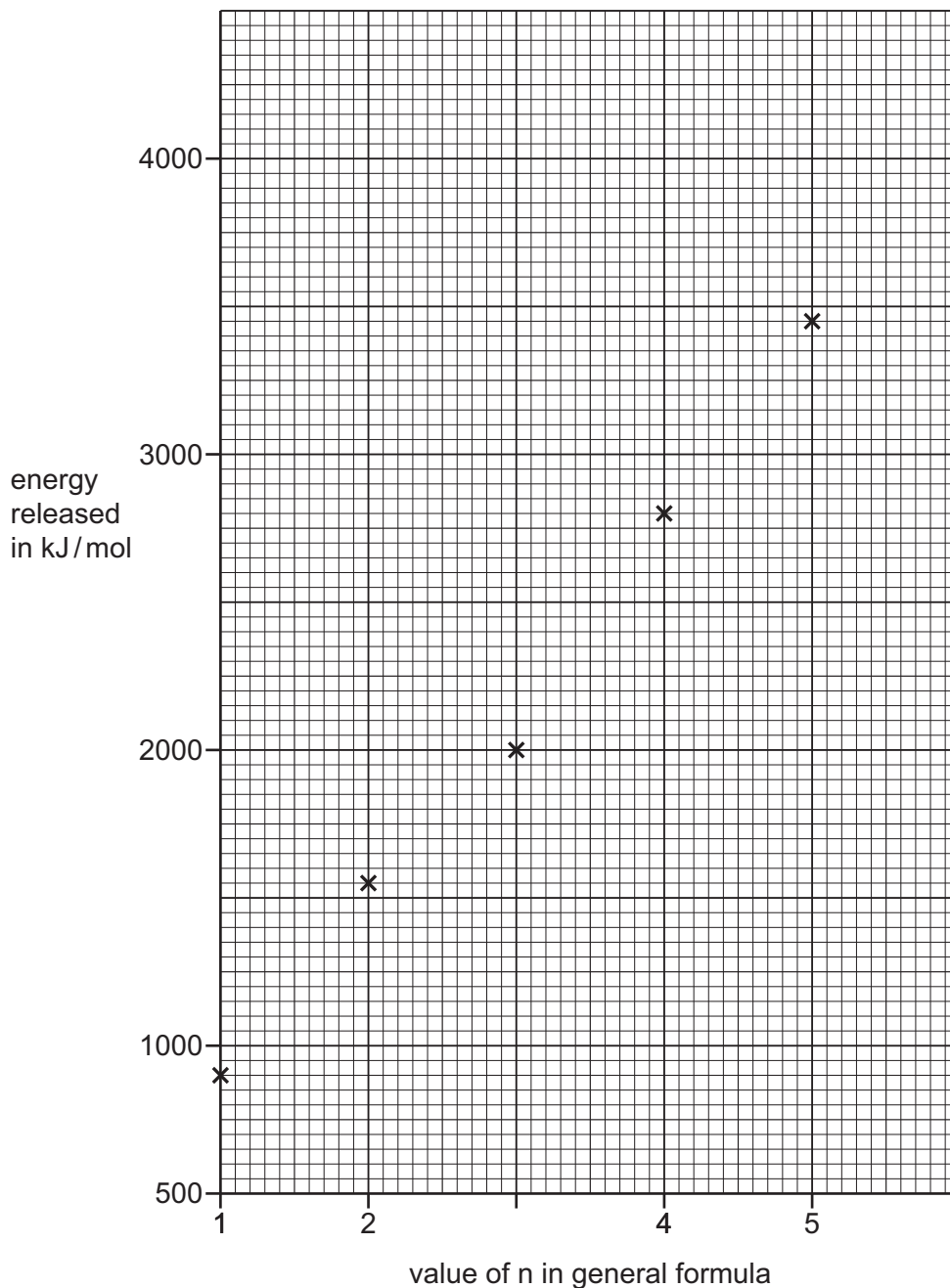
Level	IGCSE
Subject	Chemistry
Exam Board	CIE
Topic	Organic Chemistry
Sub-Topic	Fuels & Alkanes
Paper Type	Alternative to Practical
Booklet	Question Paper

Time Allowed: 38 minutes

Score: /31

Percentage: /100

- 1 The alkanes are a homologous series of hydrocarbons which are used as fuels. Their general formula is C_nH_{2n+2} . The energy released when equal amounts of the first five alkanes were burned was measured. The results are shown plotted on the grid below.



(a) Draw a line of best fit on the grid. [1]

(b) Suggest **two** reasons why not all of the points lie on the line of best fit.

1

2

[2]

- (c) Use your graph to work out the amount of energy released when the same amount of hexane, C_6H_{14} , is burned. Show clearly how you worked out your answer.

..... [2]

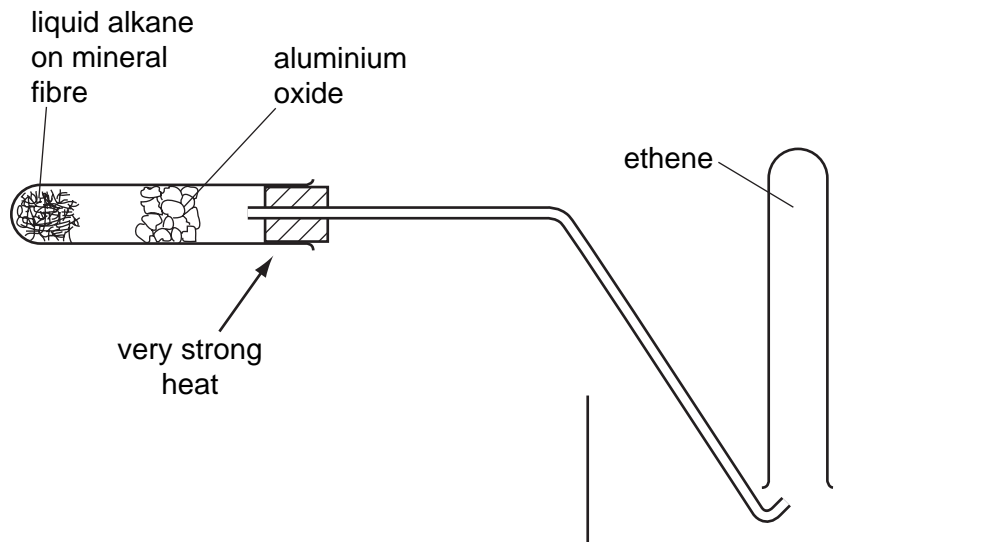
- (d) A student predicted that the energy released by burning butane would be two times the energy produced by burning ethane.

Suggest why she made this prediction and compare the values obtained for these two alkanes.

.....
.....
.....
.....
..... [3]

[Total: 8]

- 3 Ethene gas was formed by the cracking of a liquid alkane. The diagram shows the apparatus used.



- (a) Identify two mistakes in the diagram.

1 [1]

2 [1]

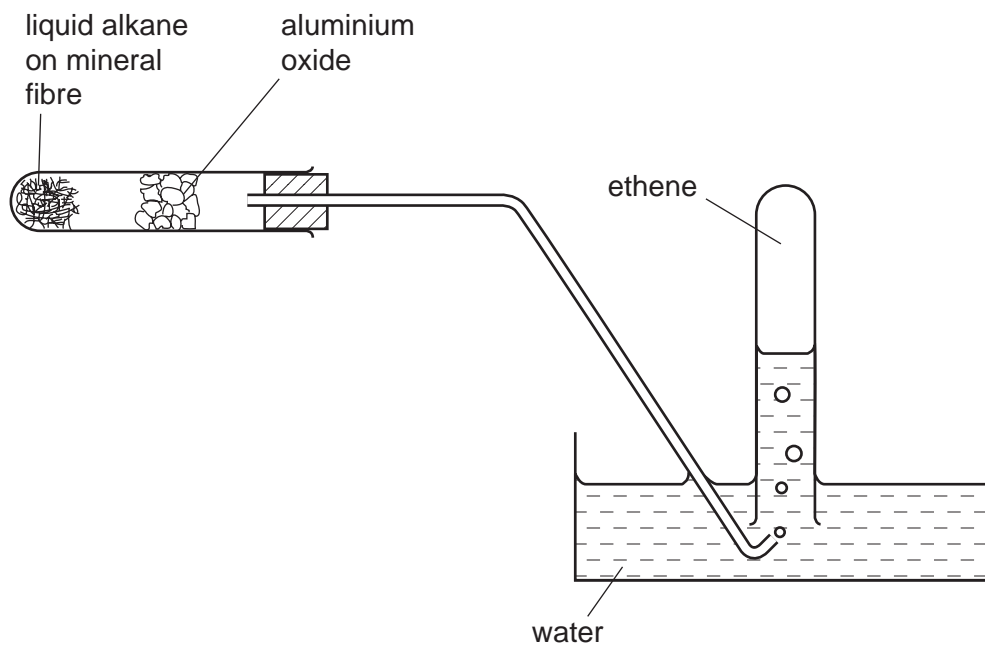
- (b) Describe a test to show the presence of ethene.

test

result [2]

[Total: 4]

5 The diagram shows how ethene can be made by cracking liquid alkanes.



(a) Indicate with arrows on the diagram where heat is applied. [2]

(b) Give a chemical test to show the presence of ethene.

test

result [2]

(c) Why must the delivery tube be removed from the water before the heat is turned off?

..... [2]