1 This information was taken from a label on a packet containing a pizza.

Nutritional information	**(per ½ pizza)**
Energy	1260 kJ
Protein	14.0 g
Carbohydrate	370 g
sugars	62 g
Fat	106 g
saturated	50 g
unsaturated	56 g

(a) (i) Which type of fat contains a double carbon to carbon (C═C) bond?

(1)

.....

(ii) The colour of bromine water is orange.

State the final colour of the mixture after bromine water is shaken with

(2)

an unsaturated fat .....

a saturated fat .....

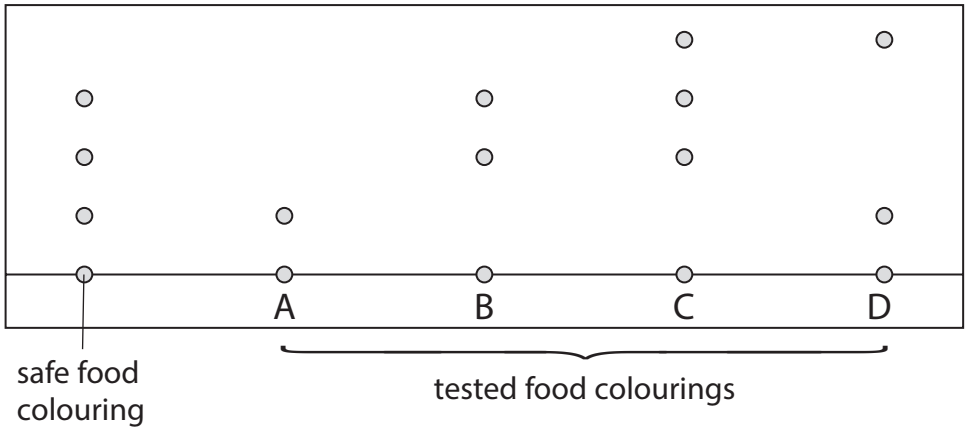
(iii) What type of reaction takes place when bromine reacts with a compound containing a C═C bond?

(1)

.....

(b) In February 2005, some companies had to remove their pizzas from sale because the food colourings in them were found to contain the artificial dye called Sudan 1, which is known to cause cancer.

The chromatogram shows how the dyes in the colourings were detected and identified.



(i) Which one of the food colourings, A, B, C or D, is made up of only one dye?

(1)

.....

(ii) Identify the food colourings that may have contained Sudan 1.

(1)

.....

(iii) Explain how the chromatogram shows that the five food colourings are different from each other.

(1)

.....

.....

.....

.....

.....

(Total for Question 1 = 7 marks)

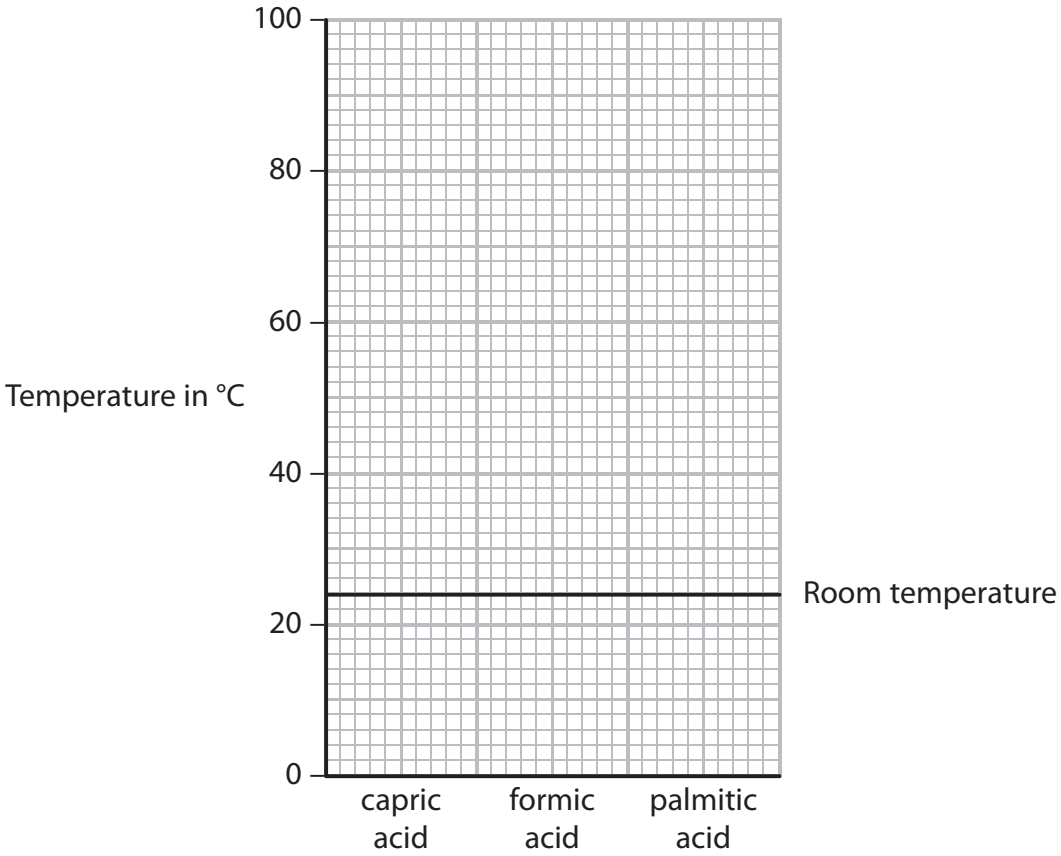
2 The melting points of three related compounds are

capric acid	32 °C
formic acid	8 °C
palmitic acid	63 °C

The boiling point of all these compounds is above 100 °C

(a) Use the grid to draw a bar chart of the melting points.

(2)



(b) Room temperature has been marked on the grid.

Use your bar chart to give the physical state of each acid at room temperature.

(2)

capric acid .....

formic acid .....

palmitic acid .....

(Total for Question 2 = 4 marks)