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1. (a) Study Figure 1a. It shows the River Tana and its tributaries in Kenya, which were the location for a fieldwork investigation.

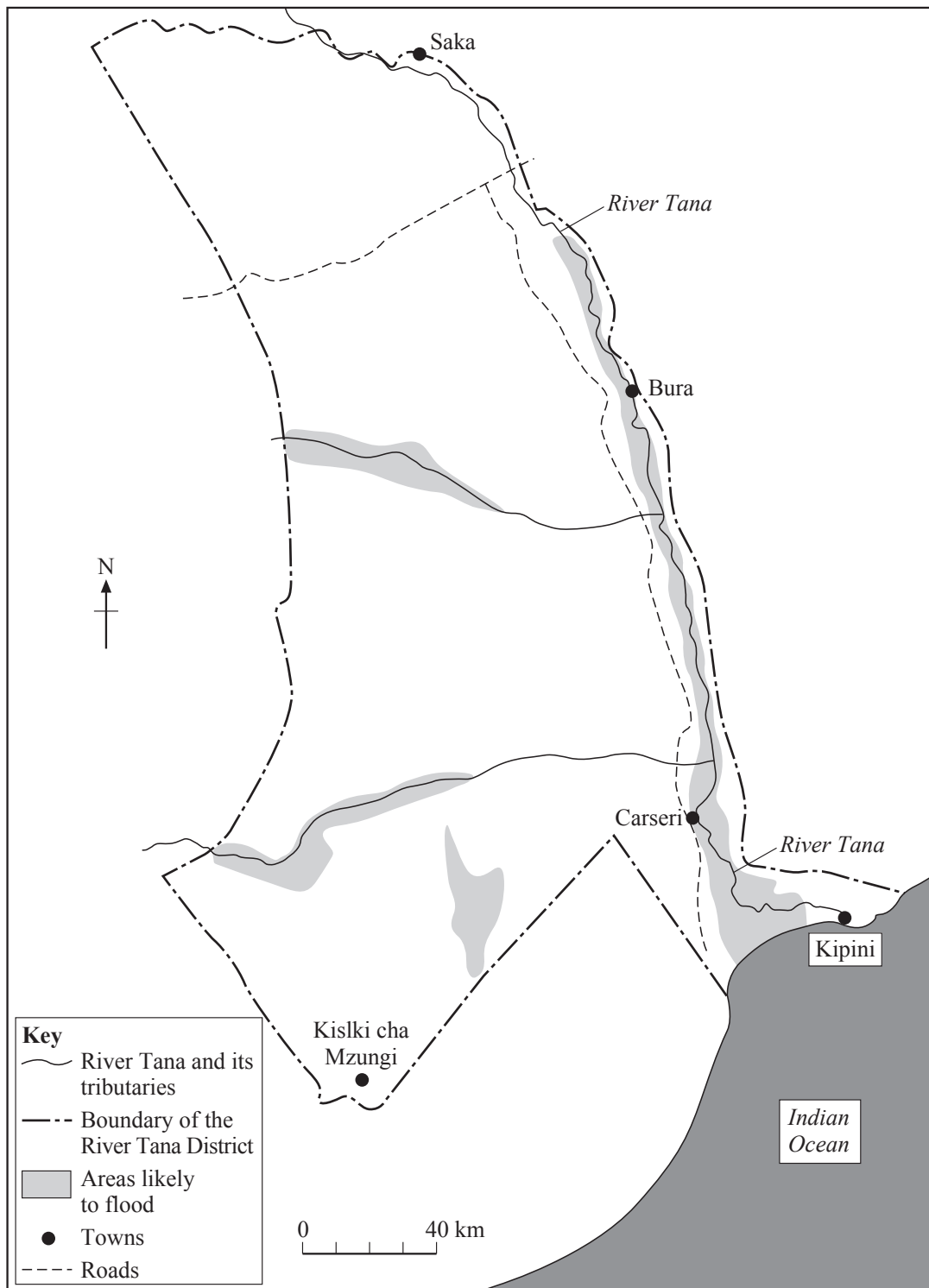
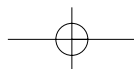
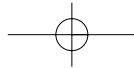


Figure 1a





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- (i) Using the map to help you, choose the correct words from the box below to complete the sentences.

The River Tana flows approximately in a direction from its to the The large river bend near Bura is called a The straight line distance between Carseri and Kipini is

35km	meander	oxbow lake	source
55km	mouth	Pacific Ocean	southerly
Indian Ocean	northerly		

(5)

- (ii) Figure 1a also shows the areas of the River Tana District that are likely to flood.

Describe where these areas are.

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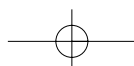
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(2)



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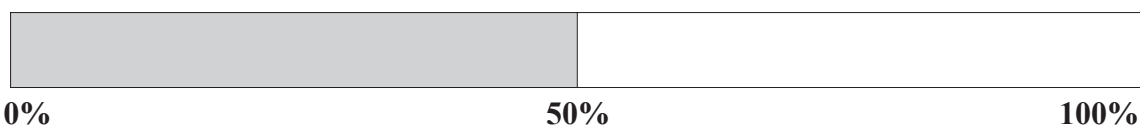
- (b) Students collected data to show how water is used in the River Tana District. This information is shown in Figure 1b.

Water usage	Share of district water %
irrigation	10%
industrial	10%
domestic	50%
hydro-electric power	30%



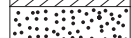

Figure 1b

Plot the data from Figure 1b to complete the divided bar graph to match the key below. (Domestic usage has been completed for you)

Divided bar graph of water use



Key

	domestic usage
	hydro-electric power
	irrigation
	industrial

(3)

- (c) Students collected data on one of the new irrigation schemes along the River Tana.

Study Figure 1c. The table shows actual and planned annual rice yields between 1997 and 2000.

Year	Actual annual rice yield (tons)	Planned annual rice yield (tons)	Important events
1997	2,000	18,000	new irrigation scheme built
1998	500	18,000	severe floods
1999	2,000	18,000	normal river flow
2000	0	18,000	severe drought

Figure 1c

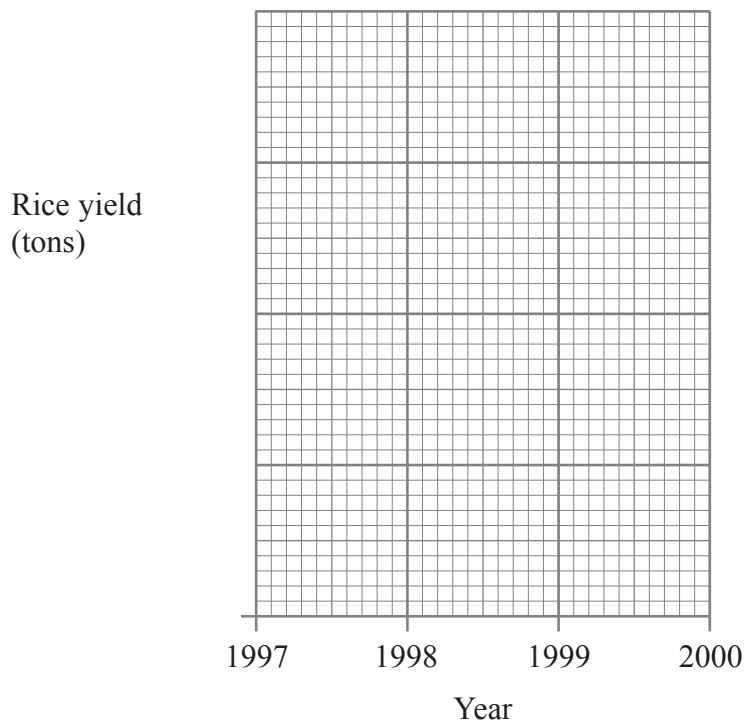


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(i) Plot and label, on the grid below, **two** line graphs for

- 1. the **actual** annual rice yields
- 2. the **planned** annual rice yields.

You must choose a suitable scale for the vertical axis (rice yield).



(4)

(ii) Why did the new irrigation scheme **not** produce the planned annual yields?

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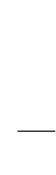
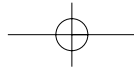
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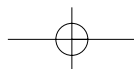
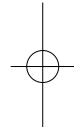
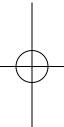
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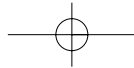
QUESTION 1 CONTINUES ON PAGE 7





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(iii) Identify and explain the limitations of the data collected.

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(3)

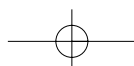
Q1

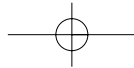
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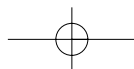
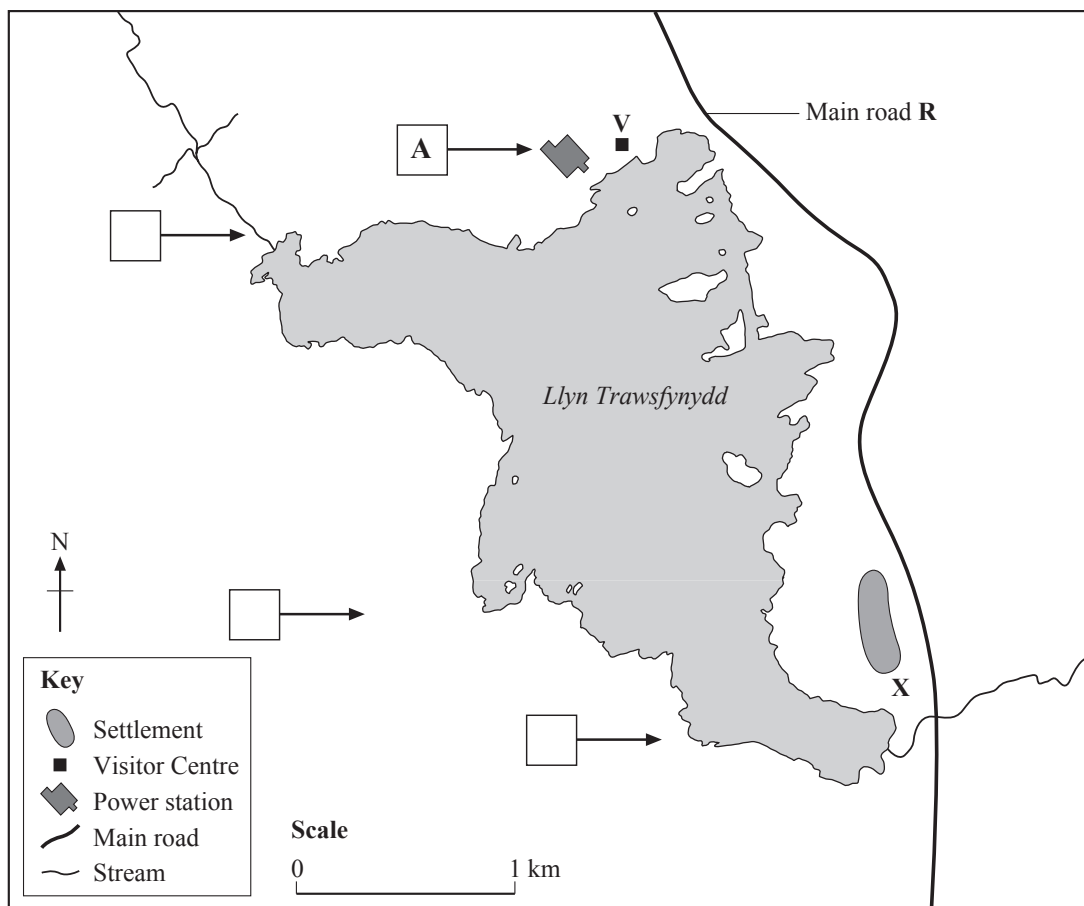
- Study the Ordnance Survey map extract (on a separate sheet) and Figure 2a, an aerial photograph. These show the Trawsfynydd nuclear power station (now disused) in North Wales (United Kingdom).



© Crown copyright: Royal Commission on the Ancient and Historical Monuments of Wales

Figure 2a

Figure 2b is a sketch map of the same area provided for a group of students undertaking a field work investigation.



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(a) (i) Look at the places labelled **X**, **R** and **V** on Figure 2b.

1. Name the settlement at **X** (1)

2. Name the main road **R** (1)

3. Give the 4 figure grid reference for the Visitor Centre (**V**) (1)

(ii) Below are four reasons (A to D) why the Trawsfynydd nuclear power station was built in this location. Place the letters B, C and D in the correct boxes on Figure 2b to show the location of each reason.

A	Low population density
B	Network of streams flowing into the reservoir
C	Flat land
D	Upland area with a high rainfall

Reason A has been done for you.

(3)



- (b) Look at Figure 2c (below) and Figure 2d (opposite). These show the results of a questionnaire survey carried out by IGCSE students in one day at the Trawsfynydd Visitor Centre.

Where visitors to the Trawsfynydd Visitor Centre live		
Number of visitors	Where they live	Distance they travelled to reach the Centre (kms)
4	Liverpool	85
3	Shrewsbury	
	Birmingham	145
2	Cardiff	175
4	Bristol	185

Figure 2c

- (i) Complete Figure 2c using the information shown on Figure 2d. **(2)**
- (ii) Complete Figure 2d by plotting the data for Liverpool given in Figure 2c. **(1)**
- (iii) What would the IGCSE students learn about visitors to the centre from the information in Figure 2d?

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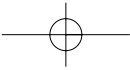
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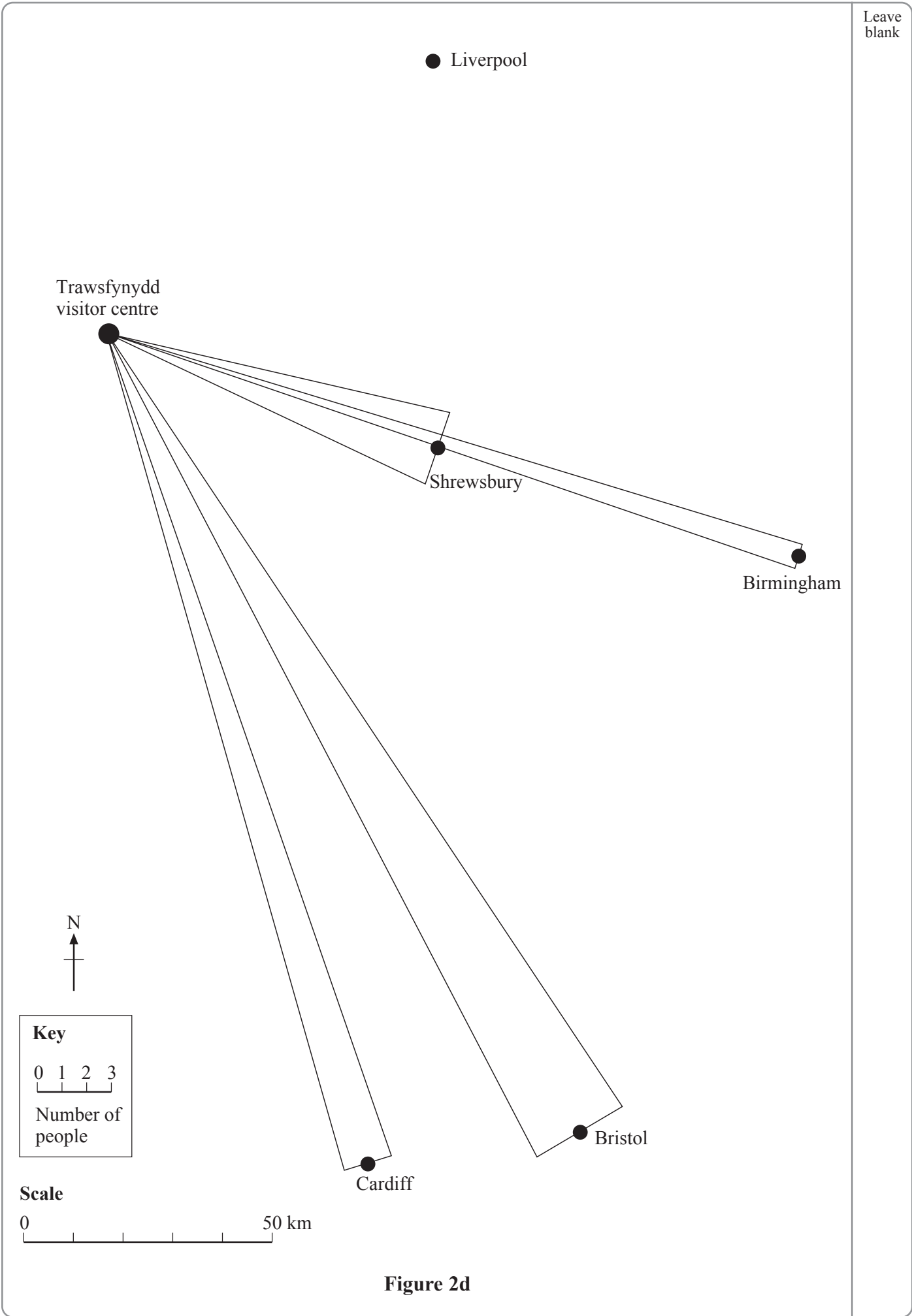
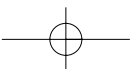


Figure 2d



M 2 3 0 4 7 A 0 1 1 2 0



(c) Study Figure 2e and Figure 2f. Figure 2e shows 12 more of the survey results:

1. distance travelled: how far each person travelled to reach the Visitor Centre
2. length of stay: how many days each person was staying in the area

Some of these results have been plotted on Figure 2f.

Result number	1. Distance travelled (km)	2. Length of stay (days)
1	20	1
2	35	1
3	60	2
4	80	5
5	85	4
6	120	5
7	135	7
8	140	8
9	170	8
10	175	10
11	185	12
12	200	12

Figure 2e

Scatter graph to show the relationship between distance travelled and the length of stay in the area

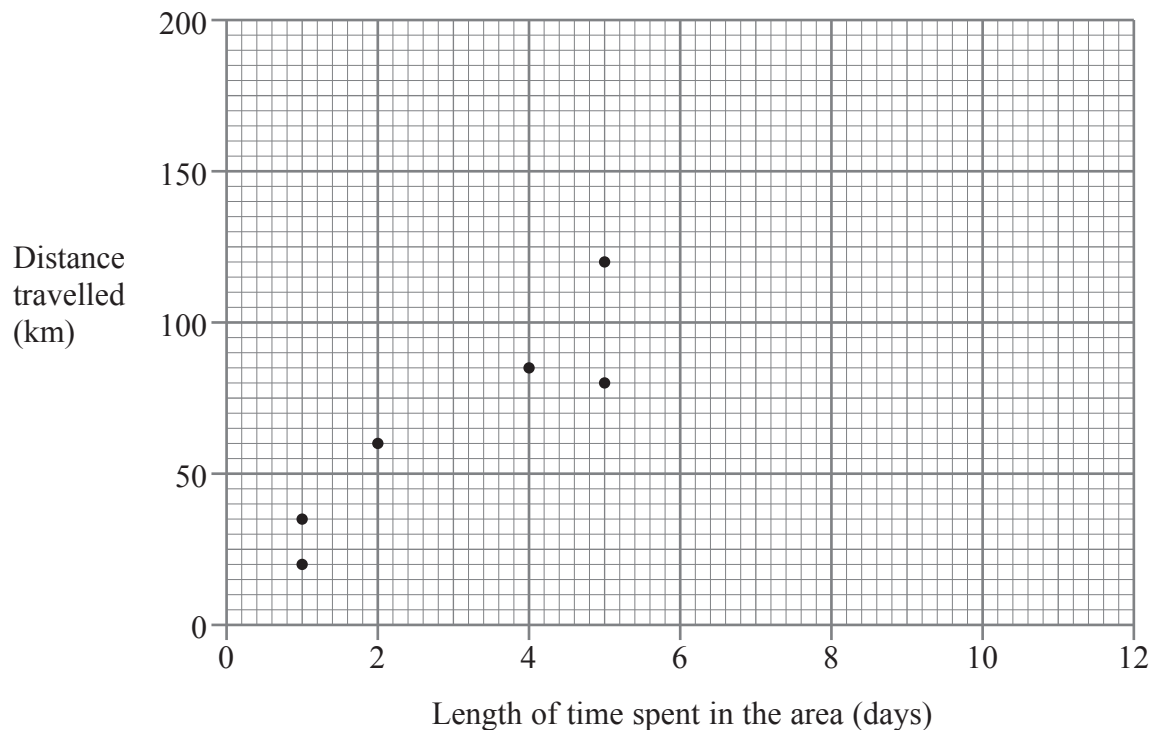
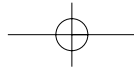


Figure 2f





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(i) Plot results 7 to 12 from Figure 2e onto Figure 2f. Results 1 to 6 have been plotted for you. (3)

(ii) What conclusions can be drawn from the relationship shown by the scatter graph (Figure 2f)?

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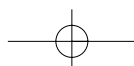
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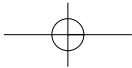
(4)

Q2

(Total 20 marks)

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- (d) Describe how your data was collected under the three headings on pages 15 and 16. You may use diagrams to help explain your answers. Spaces are provided for your diagrams but you do not need to fill these spaces.

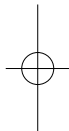
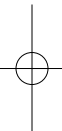
Equipment

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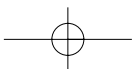
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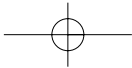
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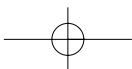
Techniques

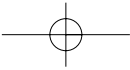
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Sampling procedures

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(6)





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(e) (i) Explain how you made sure that the data you collected was as accurate and reliable as possible.

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(ii) How could you have improved your data collection?

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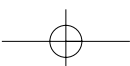
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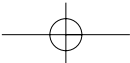
Q3

(Total 20 marks)

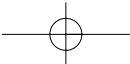
TOTAL FOR PAPER: 60 MARKS

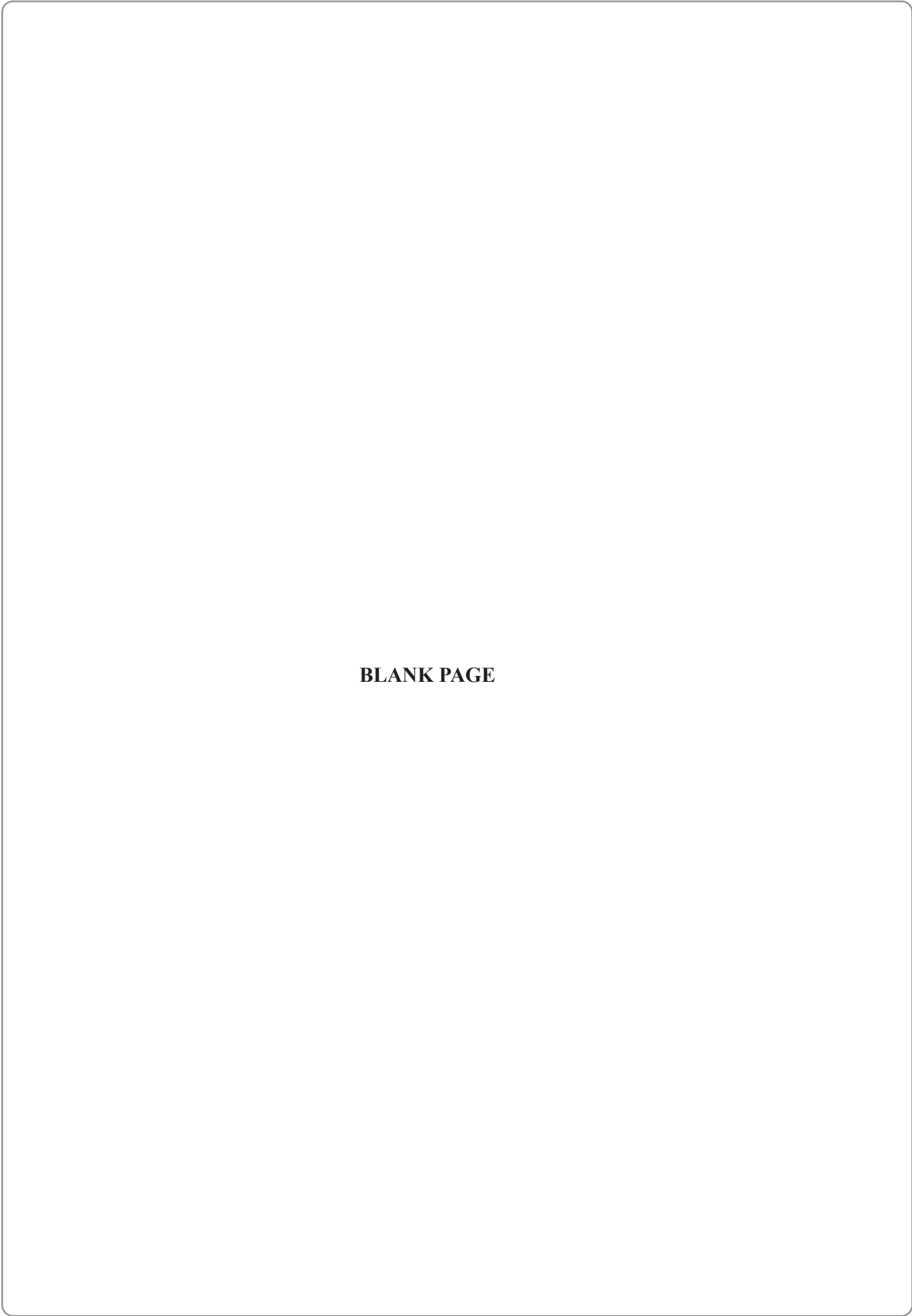
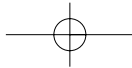
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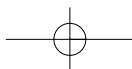


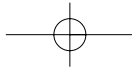


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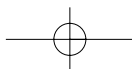
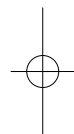
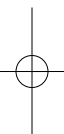


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ERRATUM NOTICE

4370/03
LONDON EXAMINATIONS IGCSE
Geography
Paper 3
Thursday 19 May 2005 - Morning

Instructions to Invigilators

Before the start of the examination, please tell candidates the following:

You do not require an answer book. You should answer all questions in the spaces provided in the question paper.