Fieldwork

1 Study **Figure 1**, a photograph of a housing estate in north east England, and **Figure 2**, a photograph of a corrie and a stream in the Lake District National Park.

Figure 1

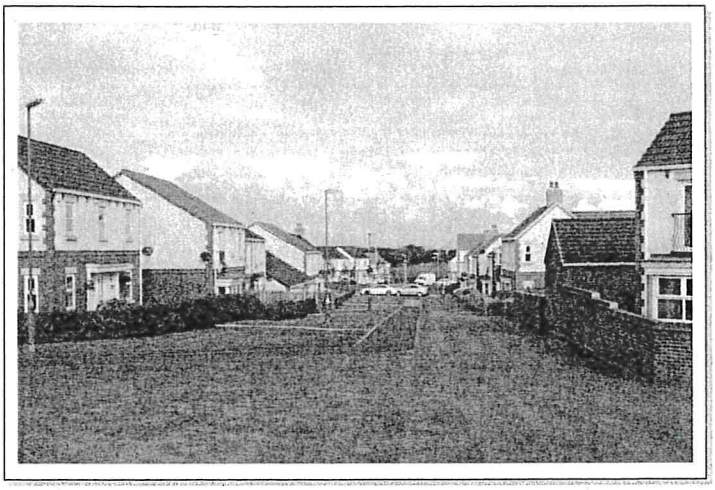
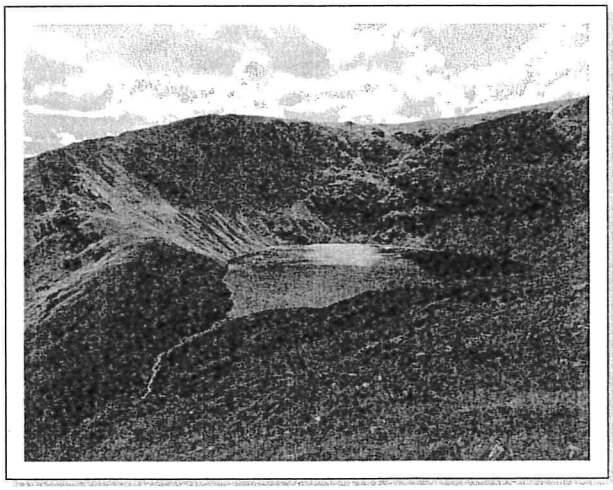


Figure 2



1.1 Suggest **one** question that could form the basis of a human geography enquiry in the environment shown in **Figure 1**.

Does area x have sufficient amenities to meet the needs of the local population?

[1]

1.2 Outline **one** primary data collection technique that could be used in the environment shown in **Figure 1** to help answer this question.

Complete a shops and business survey, locating them on a base map → identify the different types of goods & serves as well

[2]

1.3 Outline **one** primary data collection technique that could be used in the environment shown in **Figure 2**.

measure changing gradient, using ranging poles & a clinometer

[2]

1.4 Suggest **one** possible risk of collecting data in the environment shown in **Figure 2**.

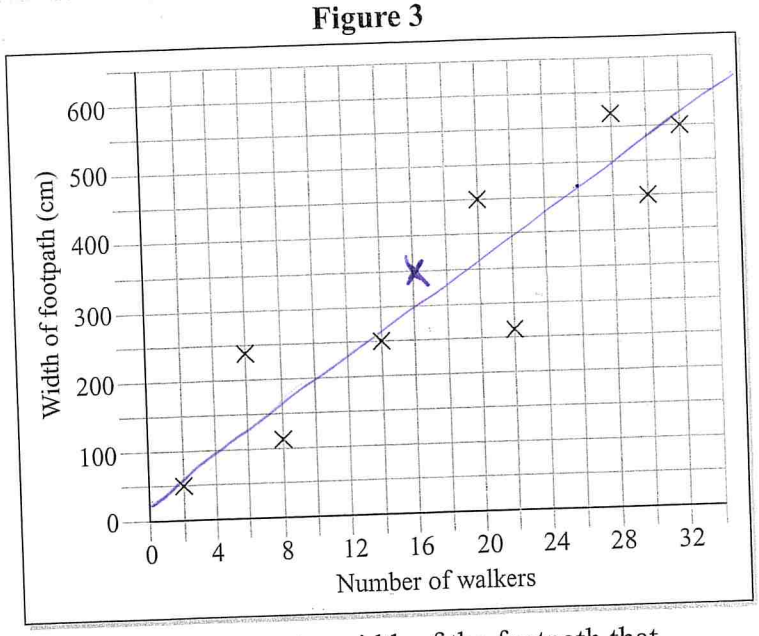
looks isolated, so if someone falls, difficult to get help

[1]

[Total 6 marks]

2 As part of a fieldwork enquiry, a student counted the number of walkers to pass a certain point on a footpath during a 10-minute period. She then measured the width of the footpath using a metre ruler. She repeated this at ten different points on the footpath. The results are shown in **Figure 3**.

Figure 3



2.1 Complete the graph in **Figure 3** by adding the data for the final site, which was used by 16 walkers and measured 350 cm wide. *[1]*

2.2 Draw a line of best fit on the graph in **Figure 3**. *[1]*

2.3 Using **Figure 3**, predict the width of a stretch of footpath used by 26 walkers.

450 cm *[1]*

2.4 Suggest **one** possible problem with the method used to measure the width of the footpath that might lead to inaccuracies in the data collected.

Use of metre stick - rather than tape measure → less flexible, so likely not to be as accurate.

[2]

2.5 Suggest **one** way in which the data collected on the number of walkers could be made more reliable.

Repeat measures at different times of day, week & year as amount of walkers will vary at weekends and in summer spring, likely to be more!

[2]

2.6 What conclusion might you draw about the impact of walkers on footpath erosion using the results shown in **Figure 3**?

The more walkers, the more erosion as path is wider (positive correlation)

[1]

2.7 Give **one** source of secondary data that you could use to test this conclusion.

tourist numbers in different locations - (car park entry).

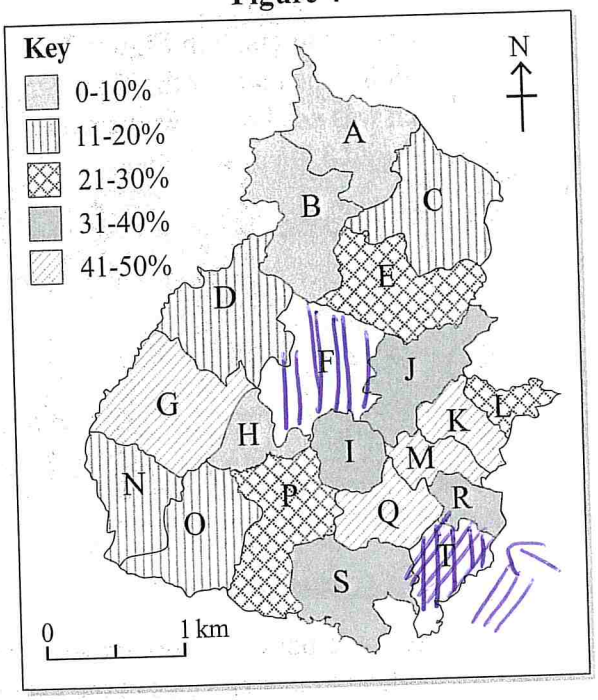
[1]

[Total 9 marks]

Fieldwork

3 A group of students sent a questionnaire to a random selection of residents in Suninsky to find out how many houses had solar panels. The results for each district are shown in **Figure 4**.

Figure 4



3.1 Complete **Figure 4** to show that 17% of the houses in district F have solar panels. *[1]*

3.2 Complete **Figure 4** to show that 43% of the houses in district T have solar panels. *[1]*

3.3 What is the percentage range of houses in district E that have solar panels?

21 - 30%. *[1]*

3.4 Describe the pattern in the use of solar panels in Suninsky shown in **Figure 4**.

More solar panels in the North, range from 0 - 30%. The most solar panels were in the South East with more than 30%, whereas the west had a mixture, ranging from 11 - 50%. *[3]*

3.5 Evaluate the data presentation technique used in **Figure 4**.

(1) good to show spatial context
(2) clear use of a key with a scale
(3) Difficult to spot trends, have to keep looking at the key
(4) could be variations within an area, for example in F, which is quite a big area. *[4]*

3.6 Suggest **one** other way in which the students could have presented the data.

Choropleth map *[1]*

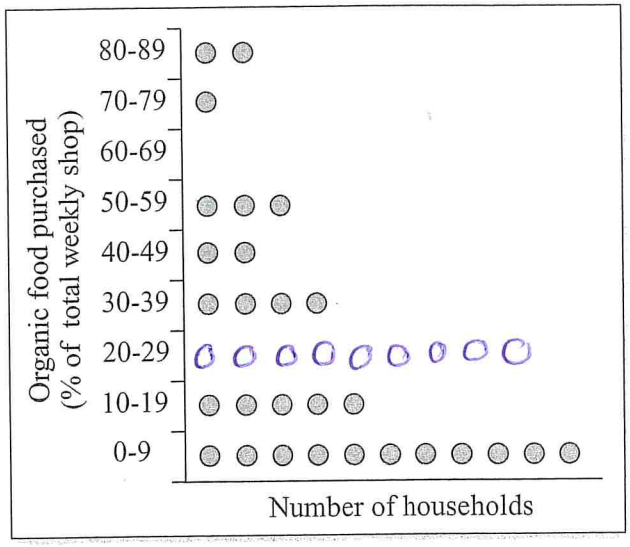
[Total 11 marks]

Fieldwork

4 A student wanted to investigate how people's food shopping habits have changed over time. As part of his fieldwork enquiry, he collected data on the amount of organic food that people buy. The data was collected through a door-to-door survey in a village with an organic farm shop. The results are shown in **Figure 5**.

4.1 Complete the graph to show that nine households in the survey buy 20-29% of their weekly shop from organic sources. *[1]*

Figure 5



4.2 What is the modal class of the data shown in **Figure 5**?

0 - 9 *[1]*

4.3 Describe the results shown in **Figure 5**.

Most people purchase less than 30% of their organic weekly shop, of the 36 households survey 25 purchased less than 30% organic, only 3 households purchased more than 60%. *[3]*

4.4 Suggest **one** reason why the data collected may not be representative of the UK as a whole.

The survey was carried out in a village with a farm shop, many people live in towns/cities with different shops available to them. *[2]*

4.5 Outline **one** limitation of the data collection technique used in this enquiry.

People surveyed will have estimated the % so many will likely have over-estimated, so results may not be accurate *[2]*

4.6 Suggest **one** other source of primary data that may be useful in this enquiry.

Interview the people who went to the farm shop and ask them about how people's shopping habits have changed/are people purchasing more organic food. *[2]*

[Total 11 marks]

Fieldwork

5 A student wanted to investigate how wave characteristics affect the cross-profile of a beach. **Figure 6** shows the method she used to find the cross-profile of the beach. She measured the profile at three points along the beach. The results are shown in **Figure 7**.

Figure 6

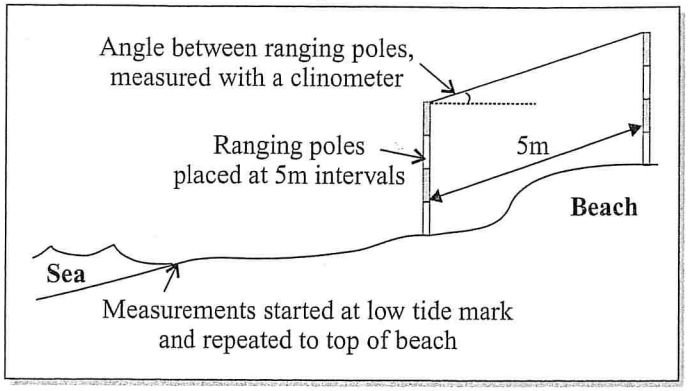
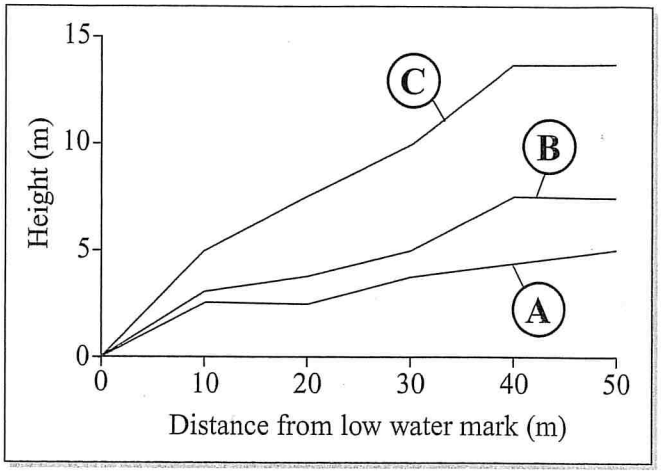


Figure 7



5.1 Describe **two** possible sources of inaccuracy in the method used.

Source 1: Missing changes in gradient between 5m intervals

Source 2: people - not holding ranging poles straight

[2]

5.2 Suggest **one** way in which the reliability of the data could be improved.

changing intervals, making them variable, depending on shape of beach

[2]

5.3 Outline **one** potential risk of collecting data in a coastal environment.

Waves, there could be a freak wave which would be a risk if people were measuring close to the sea (risk of drowning)

[2]

5.4 Suggest **one** other source of primary data that the student could collect to help her answer the research question.

could use quadrats to look at beach sediment & how it changes up the beach

[1]

[Total 7 marks]

6 As part of a fieldwork enquiry, a student collected data on river velocity. He placed a float in the river and recorded the time taken for the float to travel 10 metres downstream. The results are shown in **Figure 8**.

Figure 8

Sample	Time (s)
1	315
2	255
3	278
4	310
5	947
6	302
7	279
8	297

6.1 Suggest **one** appropriate item that could be used as the float. Give **two** reasons for your answer.

Item: Cork → painted [1]

Reason 1: light & floats

Reason 2: twig Natural + does not impact environment [2]

6.2 Which sample in the data is an anomaly?

5 [1]

6.3 Suggest **one** possible reason for the anomaly.

could have met an obstacle, got trapped by a rock which would slow it down [2]

6.4 Excluding the anomaly, calculate the **median** time taken for the float to travel 10 m.

315, 255, 278, 310, 302, 279, 297

255 278 279 (297) 302 310 315

Median = ~~315~~ 297 s [2]

6.5 Excluding the anomaly, calculate the **mean** time taken for the float to travel 10 m.

315 + 255 + 278 + 310 + 302 + 279 + 297 = ÷ 7

Mean = ... s [2]

6.6 Suggest **one** way in which the data shown in **Figure 8** could be presented.

Scatter graph Time 1 2 3 4 5 6 [1]

[Total 11 marks]