Cambridge Assessment International Education

Cambridge IGCSE™

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER			

4304399786

GEOGRAPHY **0460/42**

Paper 4 Alternative to Coursework **February/March 2020**

1 hour 30 minutes

You must answer on the question paper.

You will need: Insert (enclosed) Ruler
Calculator
Protractor

INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen or correction fluid.
- Do **not** write on any bar codes.
- If additional space is needed, you should use the lined pages at the end of this booklet; the question number or numbers must be clearly shown.

INFORMATION

- The total mark for this paper is 60.
- The number of marks for each question or part question is shown in brackets [ ].
- The insert contains additional resources referred to in the questions.

This document has **20** pages. Blank pages are indicated.

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1 A class of students went on a field visit to some coastal sand dunes in northern Brittany, France. Having studied the formation of sand dunes in class, the students wanted to find out more about their shape and the vegetation that grows on them.

(a) Put the following statements in the correct order in the table below to show the correct sequence of how sand dunes are formed. The first statement has been done for you.

- The growth of marram grass helps to stabilise the dunes.
- Wind picks up sand and moves it up the beach.
- Sand is deposited around the obstacle and the dune begins to grow.
- Friction with an obstacle on the beach slows down the wind.

1	Wind from the sea blows onshore.
2	....
3	....
4	....
5	....

[3]

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The students agreed to test two hypotheses.

Hypothesis 1: *The profile of sand dunes in the area matches a model profile drawn in a textbook.*

Hypothesis 2: *The amount of vegetation growing on the sand dunes increases with distance away from the sea.*

(b) To investigate **Hypothesis 1**, the students measured the changing angle of slope across the sand dunes inland from the sea. The method they used is shown in Fig. 1.1 (Insert).

Explain how the following equipment was used.

Ranging poles

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Tape measure

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Clinometer

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..... [6]

(c) From their measurements, the students drew a profile across the sand dunes.

This is shown in Fig. 1.2 below.

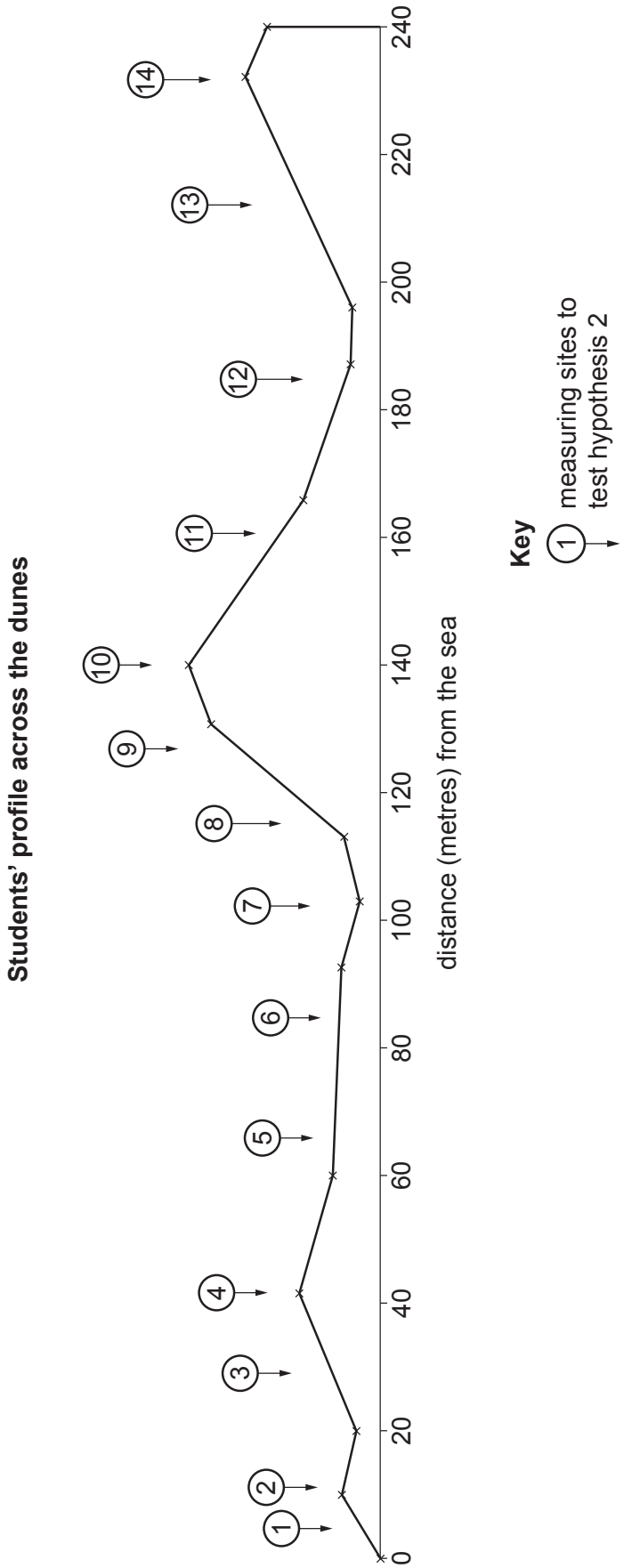


Fig. 1.2

Compare the students' profile (Fig. 1.2) with the model profile drawn in a textbook, which is shown in Fig. 1.3 (Insert).
What conclusion would the students make about **Hypothesis 1:** *The profile of sand dunes in the area matches a model profile drawn in a textbook*? Support your conclusion with evidence from Figs. 1.2 and 1.3.

.....

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..... [3]

(d) To investigate **Hypothesis 2:** *The amount of vegetation growing on the sand dunes increases with distance away from the sea*, the students measured the amount of vegetation cover at points along their profile (shown in Fig. 1.2).

(i) They used the equipment shown in Fig. 1.4 (Insert) to do this task. What is this piece of fieldwork equipment called?

..... [1]

(ii) The students' results are shown in Table 1.1 (Insert).

Which site does the photograph in Fig. 1.4 show?

Site number ..... [1]

(iii) **Plot the result at site 7** in Fig. 1.5 below. [1]

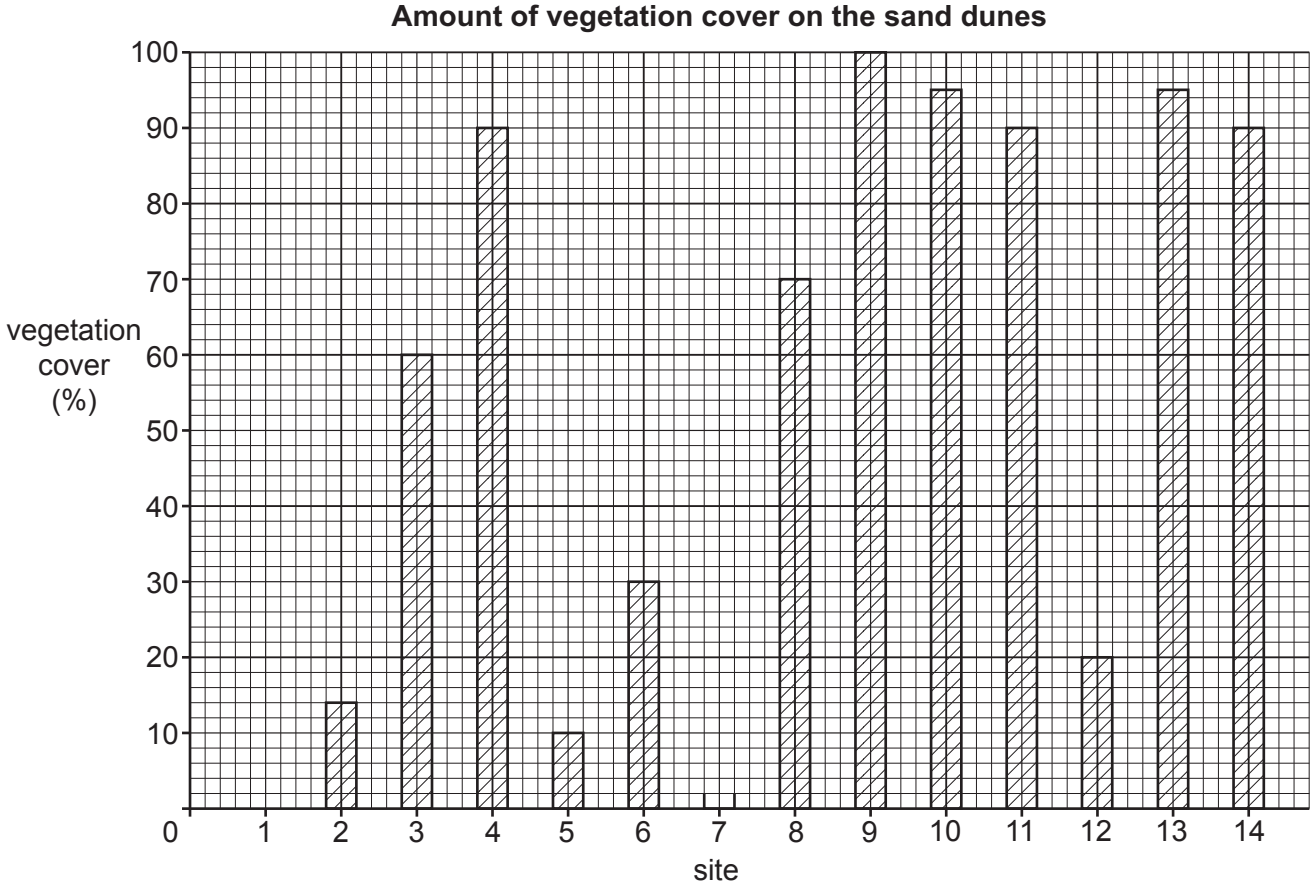


Fig. 1.5

(iv) Do the students' results support **Hypothesis 2:** *The amount of vegetation growing on the sand dunes increases with distance away from the sea*? Choose from the following conclusions and circle your choice. Use evidence from Fig. 1.5 and Table 1.1 to support your decision.

completely partially not at all

.....

.....

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.....

..... [3]

(e) Suggest **two** ways that the students could have improved their fieldwork methods when collecting data for Hypotheses 1 and 2 to make sure that their results were reliable.

1 .....

.....

2 .....

..... [2]

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(f) Whilst measuring the amount of vegetation, one student thought that the number of different vegetation species varied between sampling sites.

(i) The student could not identify some of the species of vegetation. Suggest **two** ways that he could find out what they were.

1 .....

.....

2 .....

..... [2]

(ii) The student counted the number of different vegetation species at each sampling site. His results are shown in Table 1.2 (Insert). Use these results to **plot the number of different vegetation species at site 10** in Fig. 1.6 below. [1]

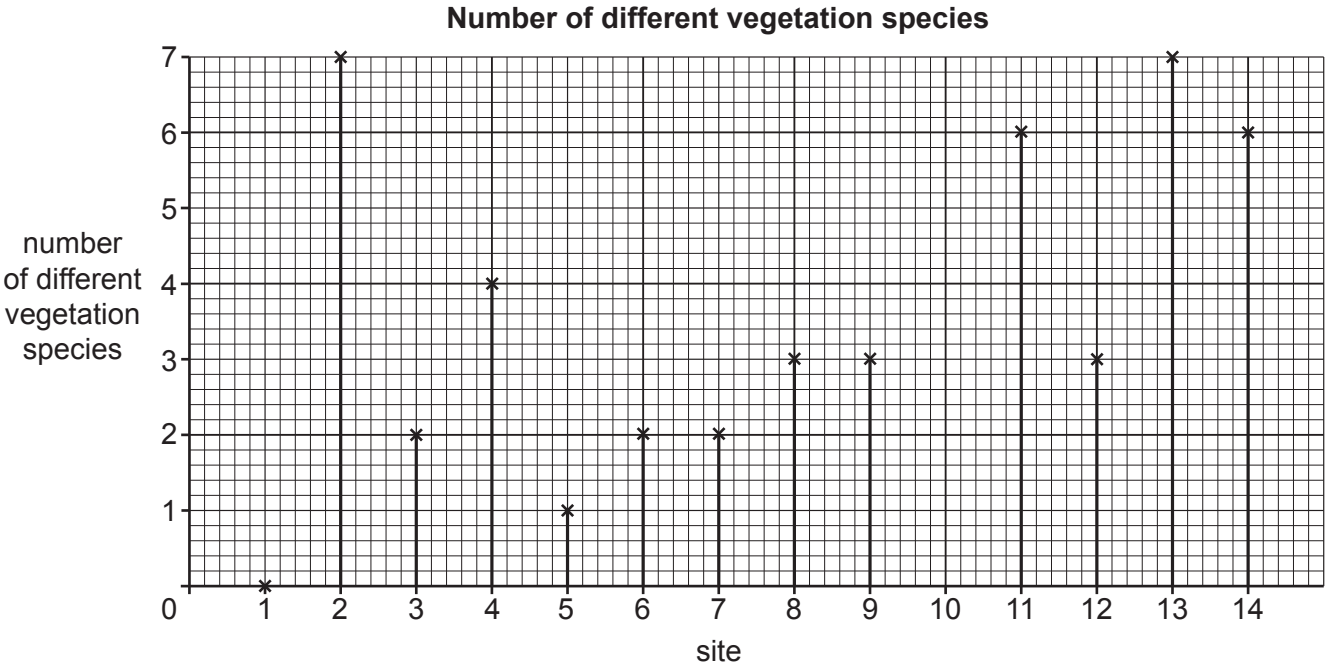


Fig. 1.6

(iii) Using Fig. 1.6, what did the student find out about the variation in the number of species between different sites?

.....

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..... [3]

(g) Fig. 1.7 (Insert) shows different methods to protect sand dunes and help them to develop. Describe how each method will do this.

Method 1

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.....

Method 2

.....

.....

Method 3

.....

.....

Method 4

.....

..... [4]

[Total: 30]

2 Students in the UK were studying a village in the rural–urban fringe. They wanted to find out how the village of Tickton had changed.

(a) Which **one** of the following is the correct definition of *rural–urban fringe*? Tick (✓) your choice.

	Tick (✓)
an area of new housing and high technology industry	
an informal settlement located at the edge of a city	
a zone where both urban and rural land uses are located	
a rural area where farming is the main land use	
the transition zone between the CBD and the inner suburbs	

[1]

(b) The students studied a map which showed how the village had changed up to 2005. They visited the village and drew onto the map new areas of buildings developed since 2005. This map is shown in Fig. 2.1 (Insert).

(i) Describe and explain the shape of the original village built before 1960.

.....

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.....

..... [2]

(ii) Describe how the village has changed since 1960.

.....

.....

.....

..... [2]

(iii) Fig. 2.2 (Insert) is a photograph which the students took in the village.
Which location (1–5) in Fig. 2.1 does the photograph show?

Circle your choice below and give a reason for your choice.

location 1 location 2 location 3 location 4 location 5

Reason for choice

.....

.....

.....

..... [2]

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The students decided to test the following hypotheses:

Hypothesis 1: *The main reason why residents live in the village is because they were born there.*

Hypothesis 2: *Most employed residents work within 20 km of the village.*

To conduct their investigation, the students produced a questionnaire to use with a sample of residents in the village. Their questionnaire is shown in Fig. 2.3 (Insert).

(c) Name a sampling method that the students could use to select people to answer their questionnaire. Explain why you chose this method.

Sampling method

.....

Explanation for choice

.....

.....

.....

.....

.....

..... [3]

(d) The results of Question 1 in the questionnaire are shown in Table 2.1 (Insert).

(i) Use the results in Table 2.1 to **complete the pie graph**, Fig. 2.4, below. [2]

The main reason why people live in the village

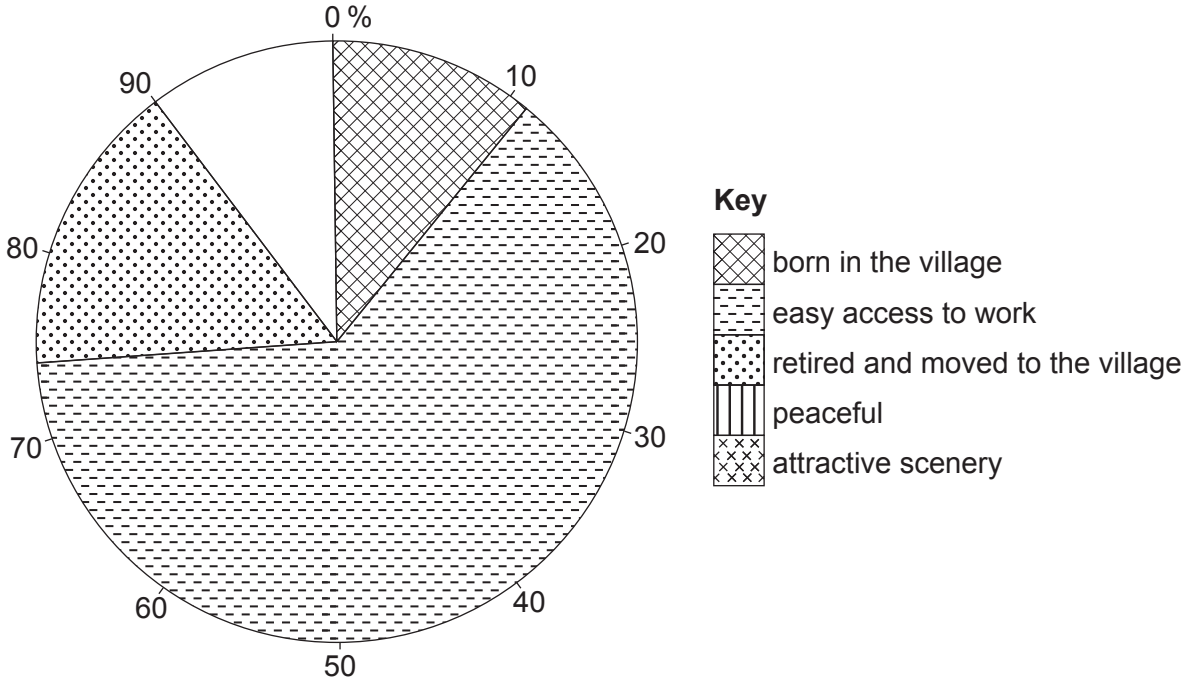


Fig. 2.4

(ii) What conclusion did the students make about **Hypothesis 1:** *The main reason why residents live in the village is because they were born there*? Support your answer with evidence from Fig. 2.4 and Table 2.1.

.....

.....

.....

.....

.....

..... [3]

(iii) The results of Question 2 in the questionnaire are shown in Table 2.2 (Insert).

Use these results **to draw a flow line** in Fig. 2.5 below to show the number of residents who work in Bridlington. [1]

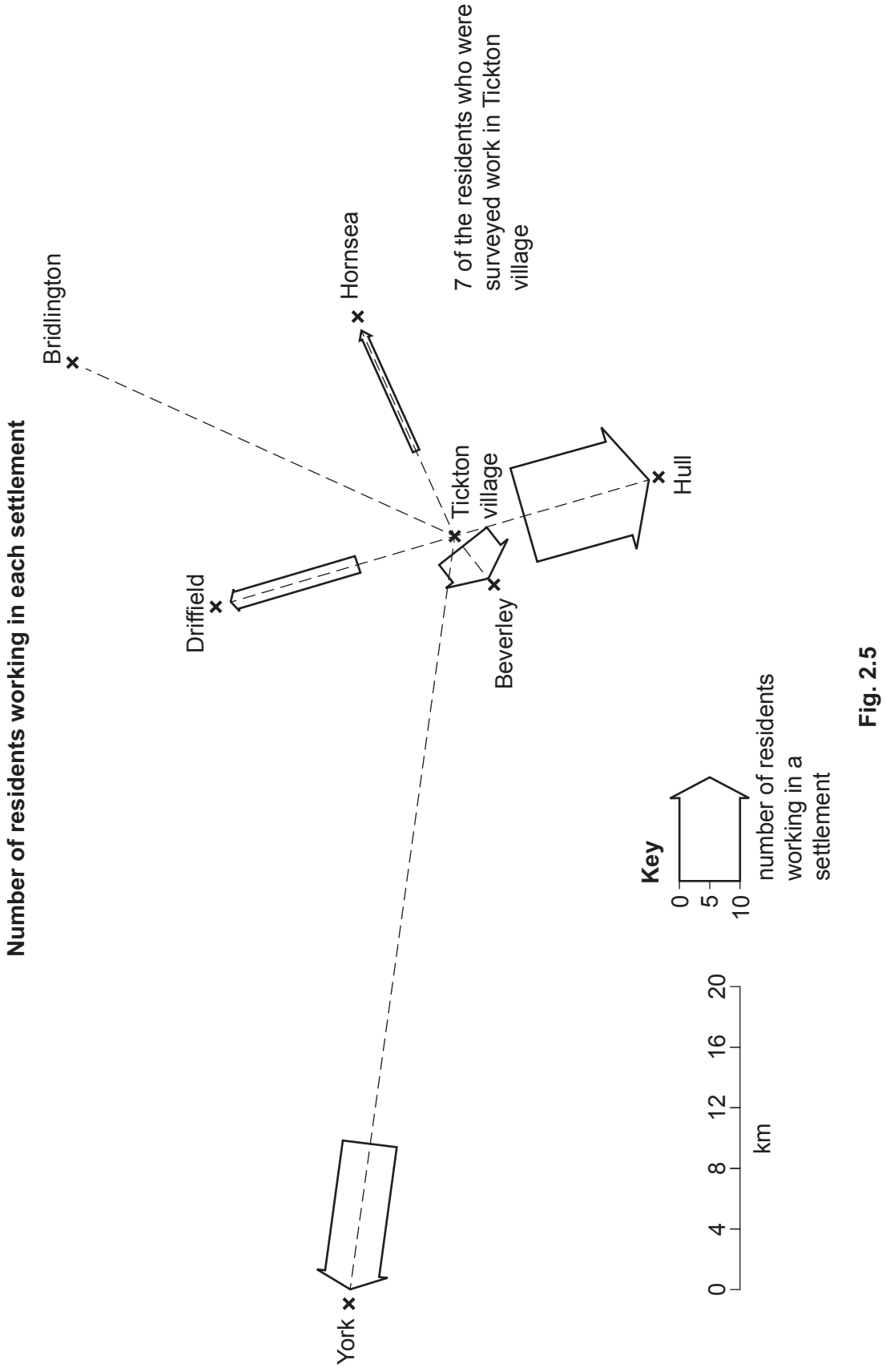


Fig. 2.5

(iv) Do you think **Hypothesis 2:** *Most employed residents work within 20 km of the village* is **correct**? Support your conclusion with evidence from Fig. 2.5 and Table 2.2.

.....

.....

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.....

.....

..... [3]

(e) One student used the national census website to find out the population of a local village in different years. Her results are shown in Table 2.3 (Insert).

(i) What type of data source is the national census website? Tick (✓) your answer below. [1]

	Tick (✓)
primary	
quaternary	
secondary	
tertiary	

(ii) Use the results **to plot the population in 1971 and 1981** on Fig. 2.6 below. [2]

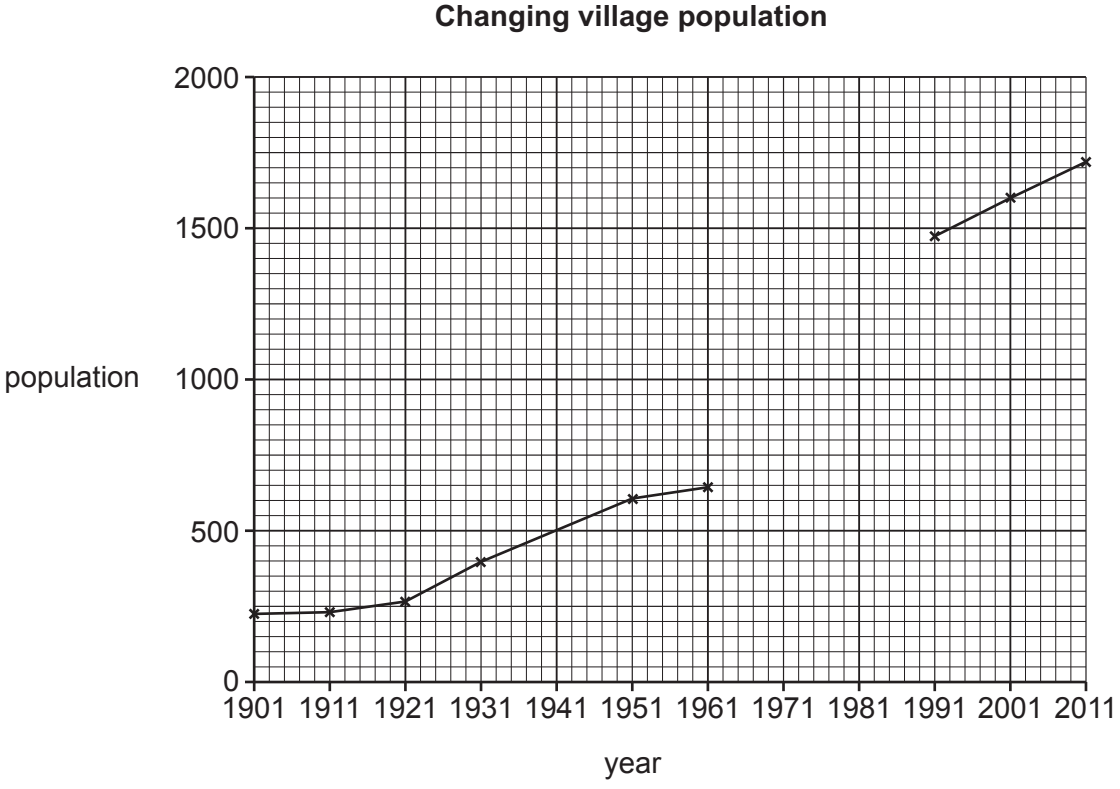


Fig. 2.6

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(iii) Describe how the population of the village has changed since 1901.

.....

.....

.....

..... [2]

(iv) Suggest **two** problems that the change in size and population of the village might cause in the local natural environment.

1 .....

.....

2 .....

..... [2]

(f) Some students wanted to do fieldwork about shops and services found in a village. Describe a suitable method for their fieldwork investigation.

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..... [4]

[Total: 30]

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Additional Pages

If you use the following lined pages to complete the answer(s) to any question(s), the question number(s) must be clearly shown.

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