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5843589788

GEOGRAPHY **0460/43**

Paper 4 Alternative to Coursework **October/November 2025**

1 hour 30 minutes

You must answer on the question paper.

You will need: Insert (enclosed)
Calculator
Protractor
Ruler

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.

LEDCs – Less Economically Developed Countries
MEDCs – More Economically Developed Countries

This document has **16** pages.

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[Turn over

1 Students in Dubai, a city in the United Arab Emirates (UAE), were studying tourism. Tourism is an important industry in the UAE and contributes about 12% of the GNP (annual income).

(a) Fig. 1.1 (Insert) shows the number of international tourists visiting Dubai between 2010 and 2022.

Describe how the number of tourists changed between 2010 and 2022.
Do **not** use statistics in your answer.

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The students did fieldwork at three sites along Jumeirah Beach, an important tourist location in Dubai. They did the following tasks.

- a visitor questionnaire using a random sampling method
- a pedestrian count done twice in the day
- recorded the tourist activities and facilities in the area

One student investigated the following hypotheses.

Hypothesis 1: *Visitors to Jumeirah Beach think that it is a good tourist attraction.*

Hypothesis 2: *There is a positive relationship (correlation) between the number of visitors and the number of tourist activities and facilities.*

(b) The student produced a questionnaire for visitors to complete to test their hypotheses. Forty visitors completed the questionnaire which is shown in Fig. 1.2 (Insert).

The student used a random sampling method to choose people to receive the questionnaire.
Describe this sampling method.

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(c) To investigate **Hypothesis 1**, the student used the results of questions 1, 2 and 3 in the questionnaire.

(i) The answers to question 1 (What do you think are the best things about Jumeirah Beach?) and question 2 (What do you dislike about Jumeirah Beach?) are shown in Table 1.1 (Insert).
Using the results, the student drew the graph in Fig. 1.3. **Plot the number of answers** for 'lively atmosphere' and 'beach is busy'. [2]

Answers to questions 1 and 2 in the questionnaire

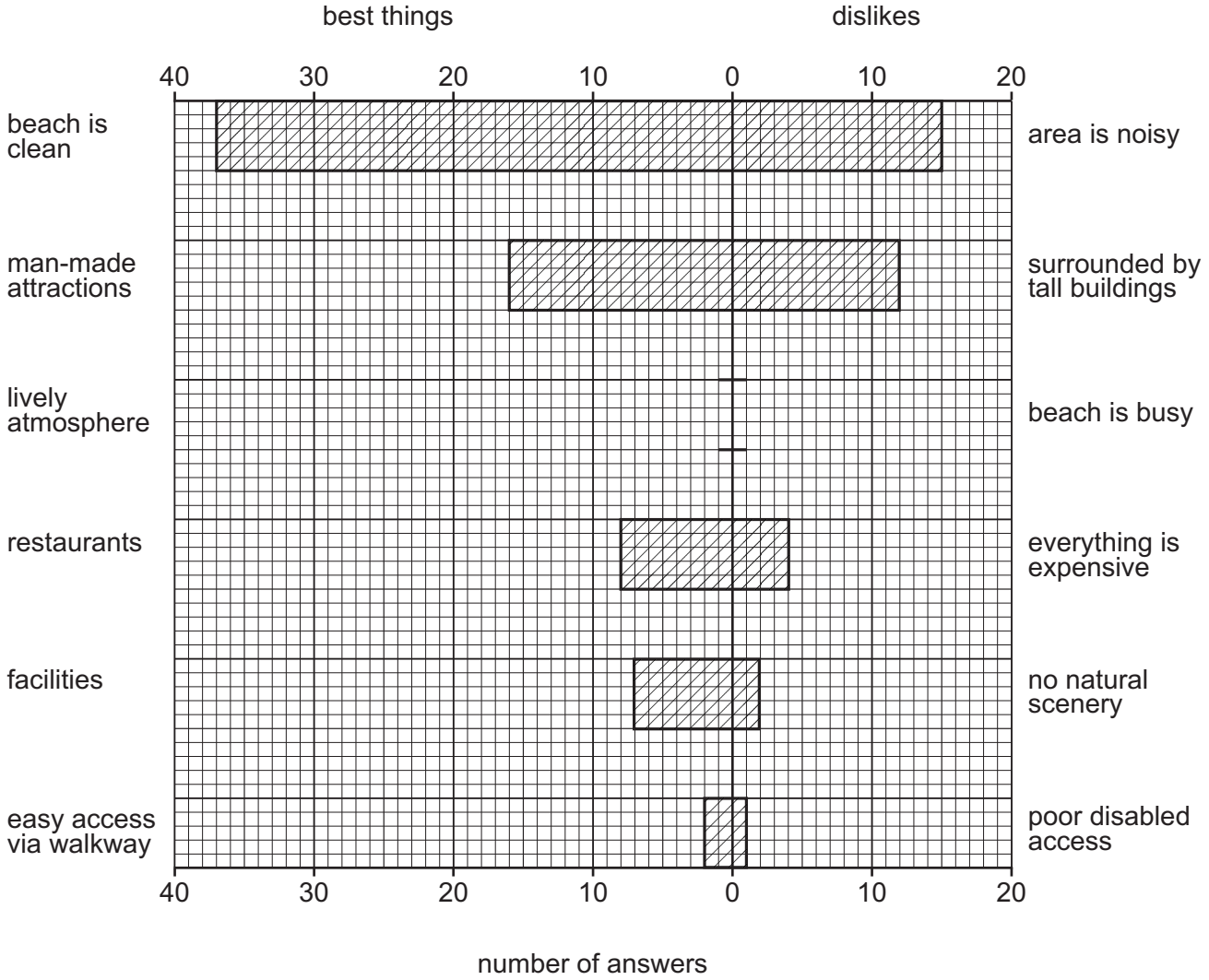


Fig. 1.3

(ii) Question 3 in the questionnaire asks 'Overall, what do you think about Jumeirah Beach? Give a score between 1 (very poor) and 5 (very good).' Suggest **one** reason why answers to this question may be unreliable.

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(iii) The results of question 3 are shown in Table 1.2 (Insert).
Which **one** of the following is a suitable technique to plot this data? (Circle) your answer.

pictogram histogram kite diagram flow diagram [1]

(iv) What conclusion did the student make about **Hypothesis 1:** *Visitors to Jumeirah Beach think that it is a good tourist attraction*? Support your decision with data from Fig. 1.3 and Tables 1.1 and 1.2.

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(d) To investigate **Hypothesis 2:** *There is a positive relationship (correlation) between the number of visitors and the number of tourist activities and facilities*, the student used the results of the pedestrian count and the information recorded about tourist activities and facilities.

(i) The student did one pedestrian count in the morning and one pedestrian count in the afternoon at three sites along the Jumeirah Beach walkway.
Describe a fieldwork method to produce accurate results from their pedestrian counts.

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(ii) The results of their pedestrian counts are shown in Table 1.3 (Insert). **Plot the results at site 3** on Fig. 1.4. [2]

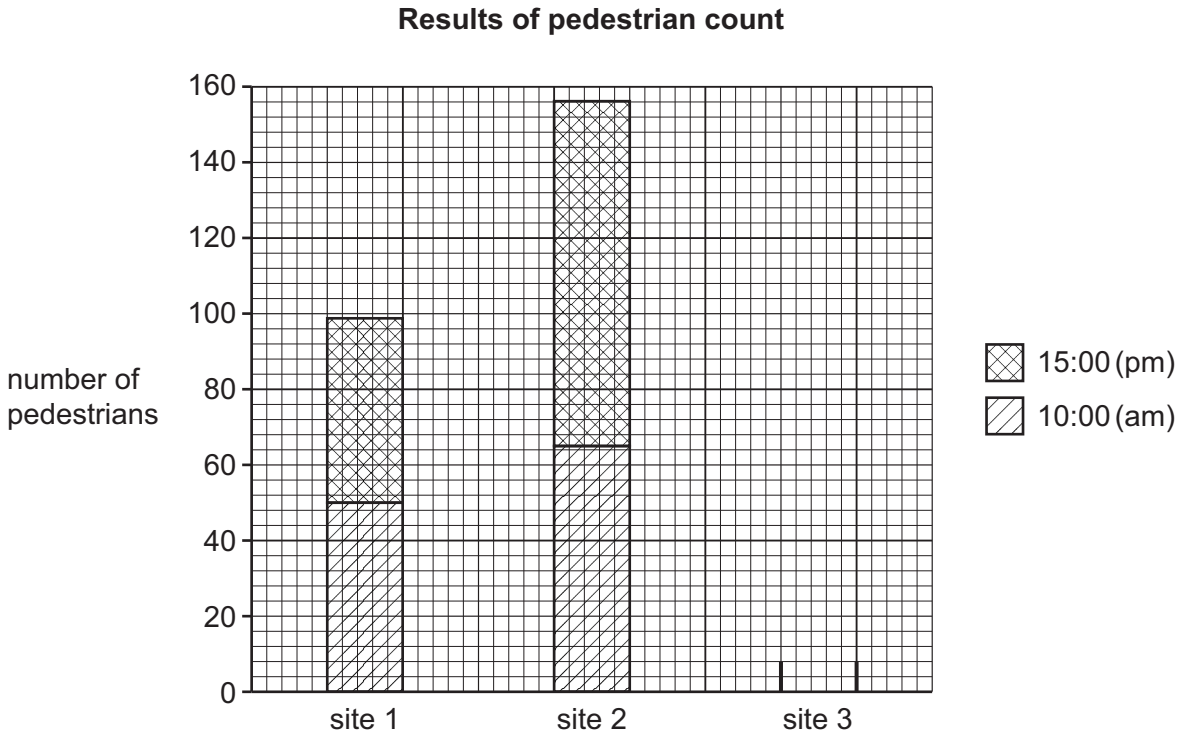


Fig. 1.4

(iii) The tourist activities and facilities which the student recorded at the three sites are shown in Figs. 1.5 and 1.6 (Insert).

Which **one** of the following conclusions about **Hypothesis 2:** *There is a positive relationship (correlation) between the number of visitors and the number of tourist activities and facilities* is correct? Tick (✓) your decision and support it with evidence from Table 1.3 and Figs. 1.4, 1.5 and 1.6.

	tick (✓)
The hypothesis is completely true.	
The hypothesis is partly true.	
The hypothesis is false.	

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(e) The student used the results of question 4 in the questionnaire (What country have you come from?) to classify the countries into regions of the world.

(i) The student drew the pie graph shown in Fig. 1.7. Use the following data **to complete Fig. 1.7**. [2]

region	percentage (%) of visitors
Central and Southern Africa	4
Australasia	1

Regions of the world where visitors to Jumeirah Beach come from

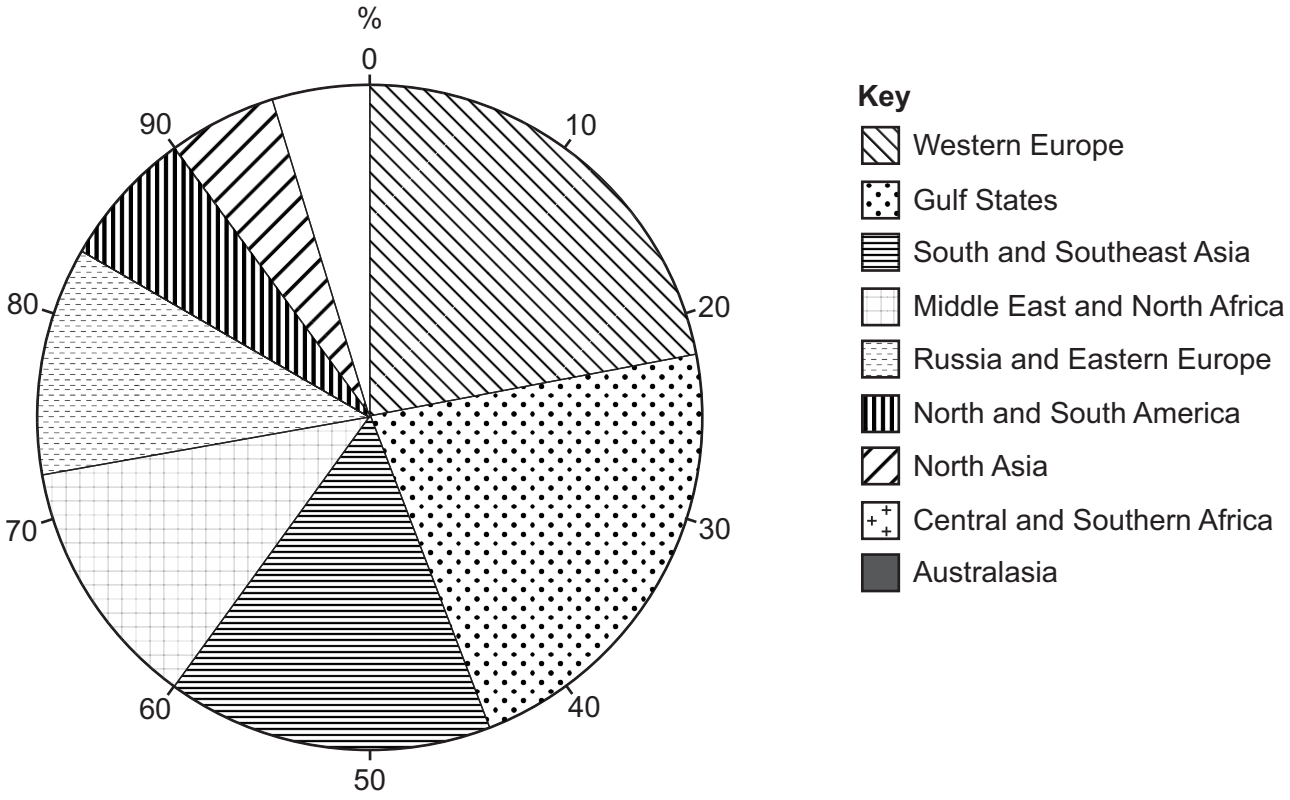


Fig. 1.7

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(ii) Use the results shown in Fig. 1.7 to identify the **two** statements in the following table which are correct. Tick (✓) your choices.

	tick (✓)
More than half of the visitors came from Western Europe.	
More visitors came from the Gulf States than from South and Southeast Asia.	
More visitors came from North and South America than from the Middle East and North Africa.	
More visitors came from Russia and Eastern Europe than from Western Europe.	
An equal number of visitors came from Western Europe and the Gulf States.	

[2]

(f) Suggest factors that would affect the variation in the number of visitors coming to Jumeirah Beach from different parts of the world.

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2 Students at a school in the UK did fieldwork on a local river. They wanted to investigate how the river changed downstream.

(a) Before splitting up into separate groups, the whole class of students did a pilot (practice) study at one site.

Identify **two** advantages of doing a pilot study in the following table. Tick (✓) your choices.

	tick (✓)
to draw a map of the river from the source to its mouth	
to get to know other students before they begin fieldwork	
to identify different features along the river valley	
to learn how to use their fieldwork equipment	
to understand how to work safely in the river	

[2]

Two groups of students worked separately to investigate the following hypotheses.

Hypothesis 1: *The slope of the river bed (gradient) becomes less steep at each site downstream.*

Hypothesis 2: *There is a positive relationship between the angle of slope of the river bed and river velocity.*

(b) To investigate **Hypothesis 1**, the students measured the angle of slope of the river bed over 10 m at each fieldwork site. Fig. 2.1 (Insert) shows a student using a traditional clinometer in this task.

(i) Describe the method used to measure the angle of slope.

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(ii) One group of students (group A) made one measurement at each site and the other group (group B) made four measurements. Give **one** reason why group B's results would be more reliable.

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(iii) One student in group B then used a digital clinometer 'app' on their mobile phone to check the accuracy of some measurements. The digital clinometer is shown in Fig. 2.2 (Insert). Suggest **two** advantages of a digital clinometer compared with the traditional clinometer shown in Fig. 2.1.

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[2]

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(c) The results of the measurements made by group B at each site are shown in Table 2.1 (Insert).

(i) At which site (1 to 5) is the largest variation in the students' measurements?

site ..... [1]

(ii) Fig. 2.3 shows a method chosen by one student to present the results in Table 2.1. Use this method **to show the average angle of slope at site 3**. [1]

(iii) Which **one** of these conclusions would the students make about **Hypothesis 1:** *The slope of the river bed (gradient) becomes less steep at each site downstream*? Tick (✓) your choice and support your decision with data from Fig. 2.3 and Table 2.1.

	tick (✓)
The hypothesis is completely true.	
The hypothesis is true with one exception.	
The hypothesis is false.	

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Average angle of slope at each fieldwork site

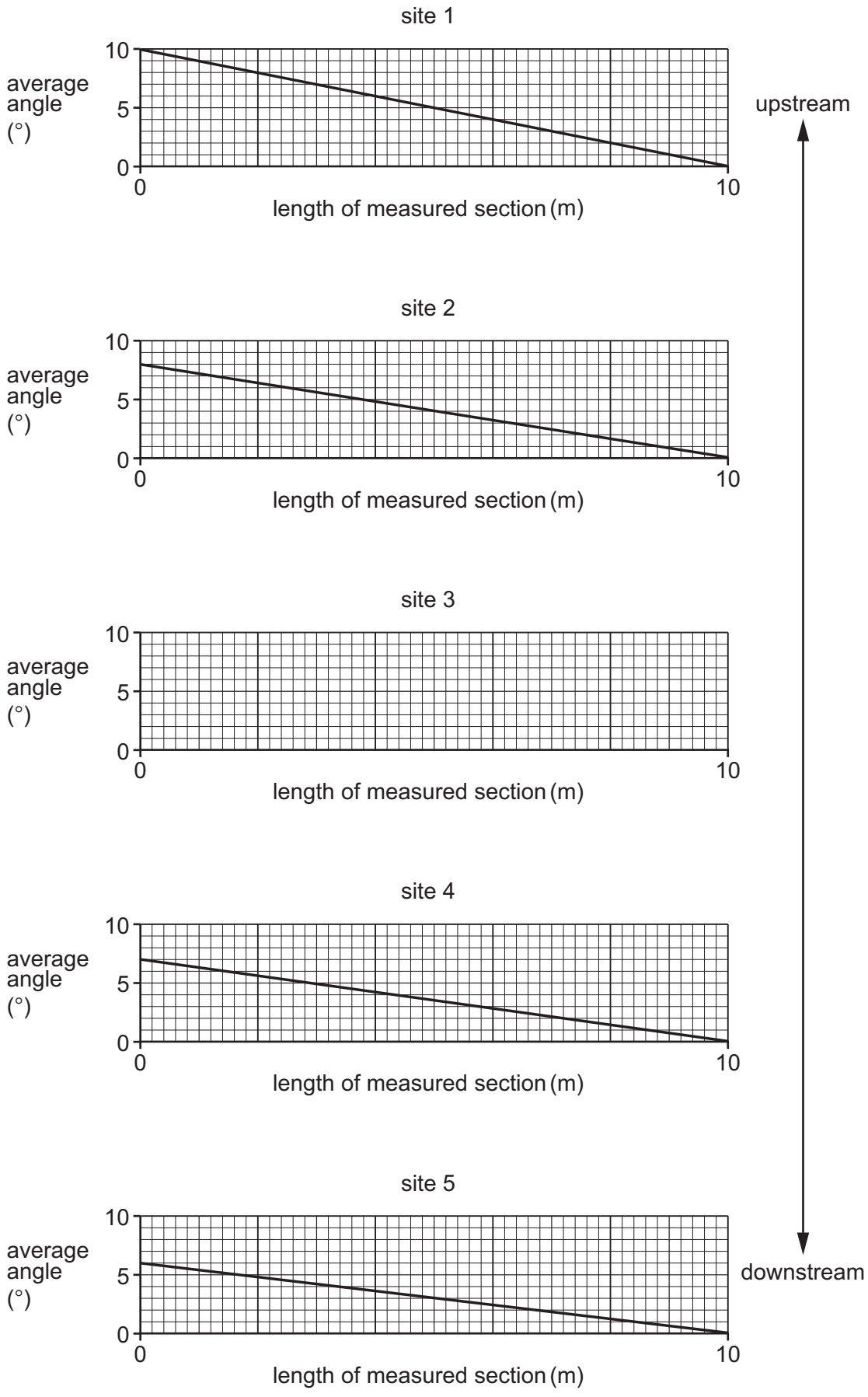


Fig. 2.3

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(d) To investigate **Hypothesis 2:** *There is a positive relationship between the angle of slope of the river bed and river velocity*, the students measured river velocity at each site.

(i) To measure river velocity, the students in group A used an orange as a float, two ranging poles, a tape measure and a stopwatch. Write the following sentences in the correct order on the table to describe their method. The first action has been completed for you.

- Record in a fieldwork notebook the time taken for the orange to travel 10 m.
- Mark the beginning and end of the measured section with the two ranging poles.
- Stop the stopwatch when the orange reaches the second ranging pole.
- Put the orange in the river at the first ranging pole and start the stopwatch.

1	Use the tape measure to measure a 10 m section along the river.
2	....
3	....
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5	....

[2]

(ii) The students in group B used a flowmeter. This is shown in Figs. 2.4 and 2.5 (Insert). Describe how they used the flowmeter to measure velocity.

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(iii) The river velocity results and the average angle of slope measurements of the students in group B are shown in Table 2.2 (Insert). **Plot the results for site 5** on the scatter graph, Fig. 2.6. [1]

Angle of slope and velocity

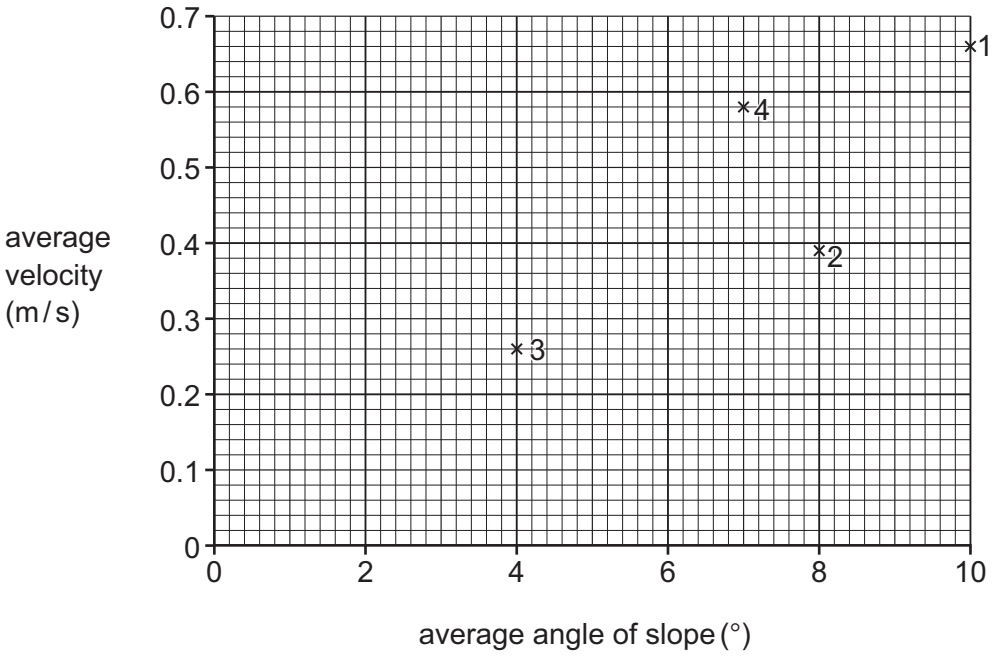


Fig. 2.6

(iv) Do the results in Fig. 2.6 and Table 2.2 agree with **Hypothesis 2:** *There is a positive relationship between the angle of slope of the river bed and river velocity*? Use data to support your answer.

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(v) The angle of slope of the river bed is one factor which affects the velocity of a river. Explain how **two** other factors affect velocity.

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[2]

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(e) The two groups of students worked on hypotheses 1 and 2. Other students investigated how other characteristics of the river changed downstream.

(i) Suggest a suitable hypothesis to investigate. Do **not** choose slope of the river bed (gradient) or river velocity.

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(ii) Describe a method to investigate your hypothesis at different fieldwork sites downstream.

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Additional page

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