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GEOGRAPHY

0460/42

Paper 4 Alternative to Coursework

May/June 2026**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. Do **not** use correction fluid or tape.
- 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 **20** pages. Any blank pages are indicated.

1 Students in Qatar were studying tourism. Tourism is an important industry in Qatar.

(a) Figure 1.1 (Insert) shows the number of international tourists who visited Qatar between 2011 and 2023.

(i) How many international tourists visited Qatar in 2013?

..... million [1]

(ii) Between which two years was the greatest decrease in the number of international tourists visiting Qatar? Tick (✓) your answer in the table.

	tick (✓)
2011–2012	
2016–2017	
2019–2020	
2021–2022	

[1]

The students decided to investigate what impact tourists had on a popular tourist park in Doha, the capital city of Qatar. They did fieldwork at six sites in the park to investigate the following hypotheses:

Hypothesis 1: Grass will be more worn away near to footpaths.

Hypothesis 2: The impact of visitors on the natural environment varies within the park.

(b) To investigate **Hypothesis 1**, the students used a quadrat, shown in Figure 1.2 (Insert). They put the quadrat on the ground at different distances away from each footpath and counted how many squares were covered in grass. Their results are shown in Table 1.1 (Insert).

(i) Use the results to complete the graph for 9m away from the footpath at site 6 on Figure 1.3.

[1]

Results of quadrat fieldwork

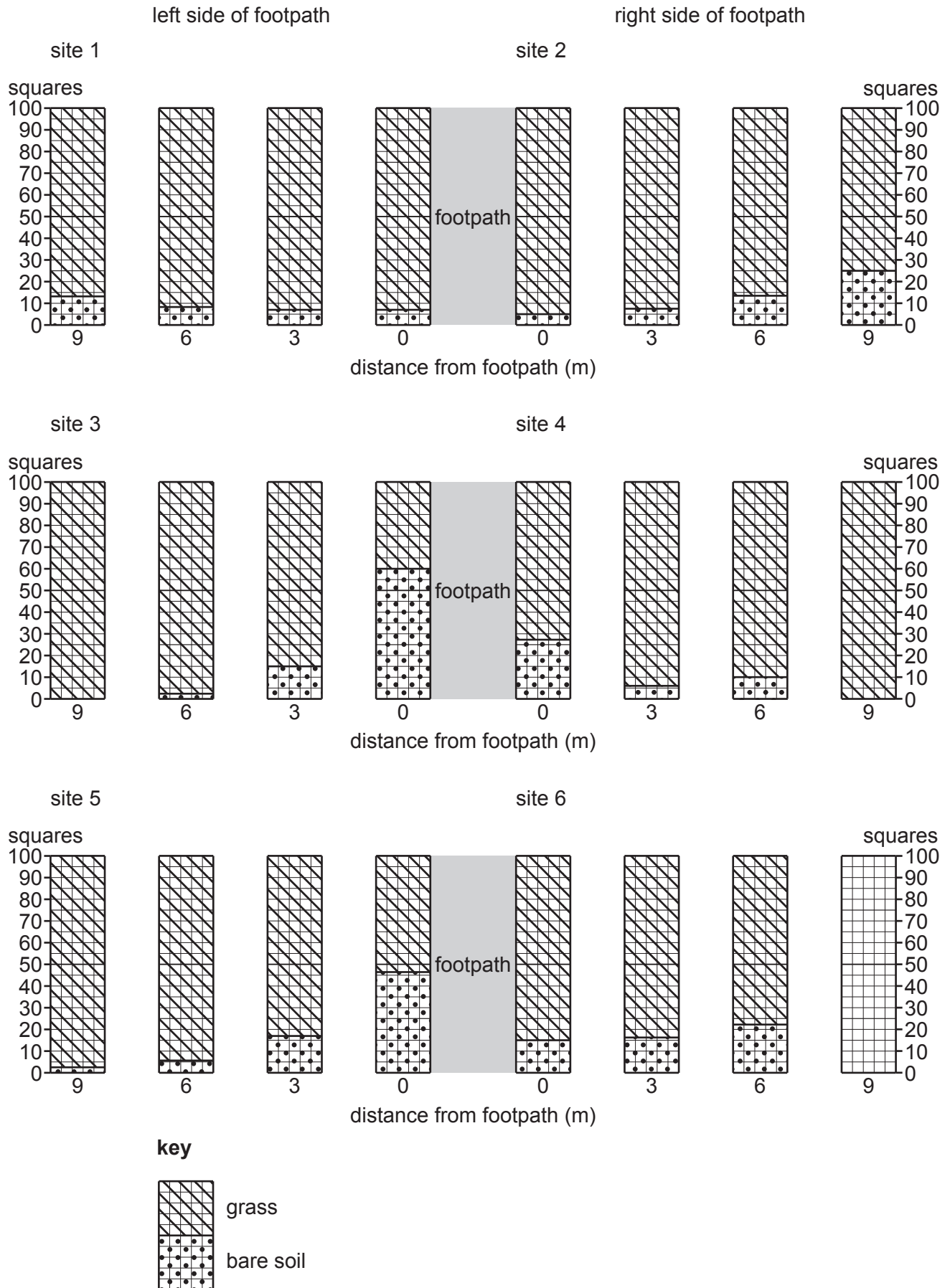


Figure 1.3

- (ii) Which **one** of the following conclusions would the students make about **Hypothesis 1**: Grass will be more worn away near to footpaths?

Use evidence from Figure 1.3 and Table 1.1 to support your decision.

	tick (✓)
hypothesis is true for all sites	
hypothesis is true for some sites	
hypothesis is false for all sites	

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..... [4]

- (iii) Suggest **two** reasons why grass might be more worn away in some areas of the park.

1

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2

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..... [2]

- (c) The students collected information to test **Hypothesis 2**: The impact of visitors on the natural environment varies within the park. Each student completed a bipolar survey by themselves at three sites (sites 1, 3 and 6).

Their recording sheet is shown in Figure 1.4 (Insert).

- (i) Describe how each student would use the recording sheet.

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..... [3]

The decisions made by two students at site 3 are shown in Figure 1.5.

Students' decisions

Student A

site: 1 2 (3) 4 5 6 (circle)							
feature	negative description	−2	−1	0	+1	+2	positive description
fencing, signs, paths	damaged	✓					undamaged
noise of people	very noisy		✓				peaceful
litter on the ground	lots of litter		✓				no litter
damage to trees and plants	widespread				✓		none
number of people around	crowded	✓					few people
total environmental quality score: −5							

Student B

site: 1 2 (3) 4 5 6 (circle)							
feature	negative description	−2	−1	0	+1	+2	positive description
fencing, signs, paths	damaged		✓				undamaged
noise of people	very noisy				✓		peaceful
litter on the ground	lots of litter			✓			no litter
damage to trees and plants	widespread			✓			none
number of people around	crowded		✓				few people
total environmental quality score: −1							

Figure 1.5

(ii) Suggest **two** reasons why the scores given by the two students are different.

1

.....

2

.....

[2]

(d) The results of student **A**'s bipolar survey are shown in Figure 1.6.

(i) Plot the data shown in Figure 1.5 to show student **A**'s decisions for site 3 on Figure 1.6.

[2]

Student A's bipolar survey results

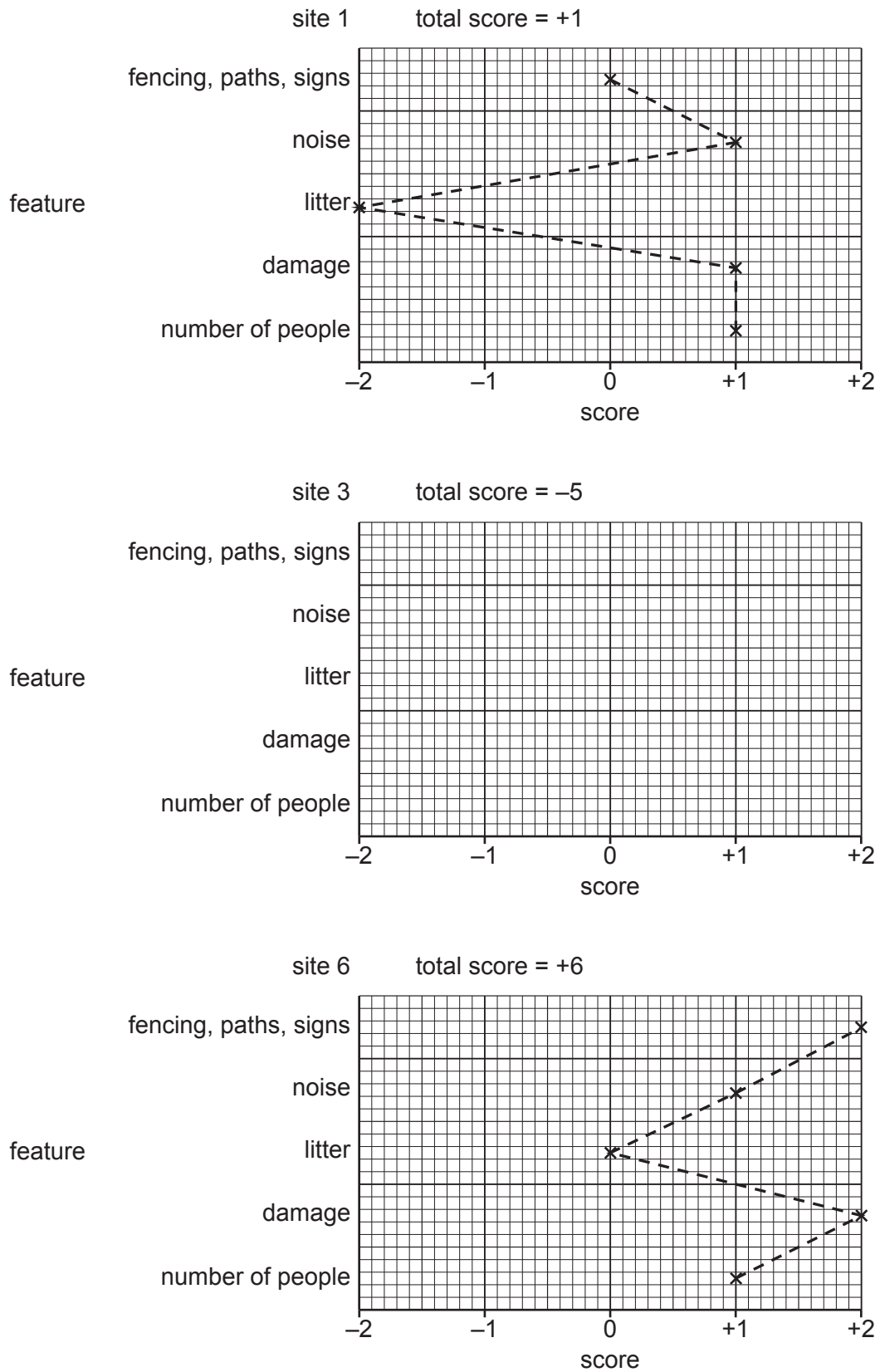


Figure 1.6

- (ii) Do student **A**'s results support **Hypothesis 2**: The impact of visitors on the natural environment varies within the park?

Support your conclusion with evidence from Figure 1.6.

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..... [4]

- (e) The tourists visiting the park came from different countries. As an extension task, some students used a questionnaire to find out more about where tourists came from and why they were visiting Qatar.

Their questionnaire is shown in Figure 1.7 (Insert).

- (i) The students used a sampling method to select people to answer their questionnaire. What is meant by sampling?

.....

..... [1]

- (ii) Why is sampling an important technique in geographical fieldwork?

.....

..... [1]

- (iii) Use arrows to match the sampling methods with their descriptions in the following tables.

sampling method
random
stratified
systematic

description
select people in proportion to represent different groups
select the next person they meet
select people in a regular pattern

[2]

- (f) (i) To find out where tourists came from, one student used the answers to question 1 in the questionnaire: Which country have you come from?

The results are shown in Table 1.2 (Insert).

Use this data to complete Figure 1.8.

[2]

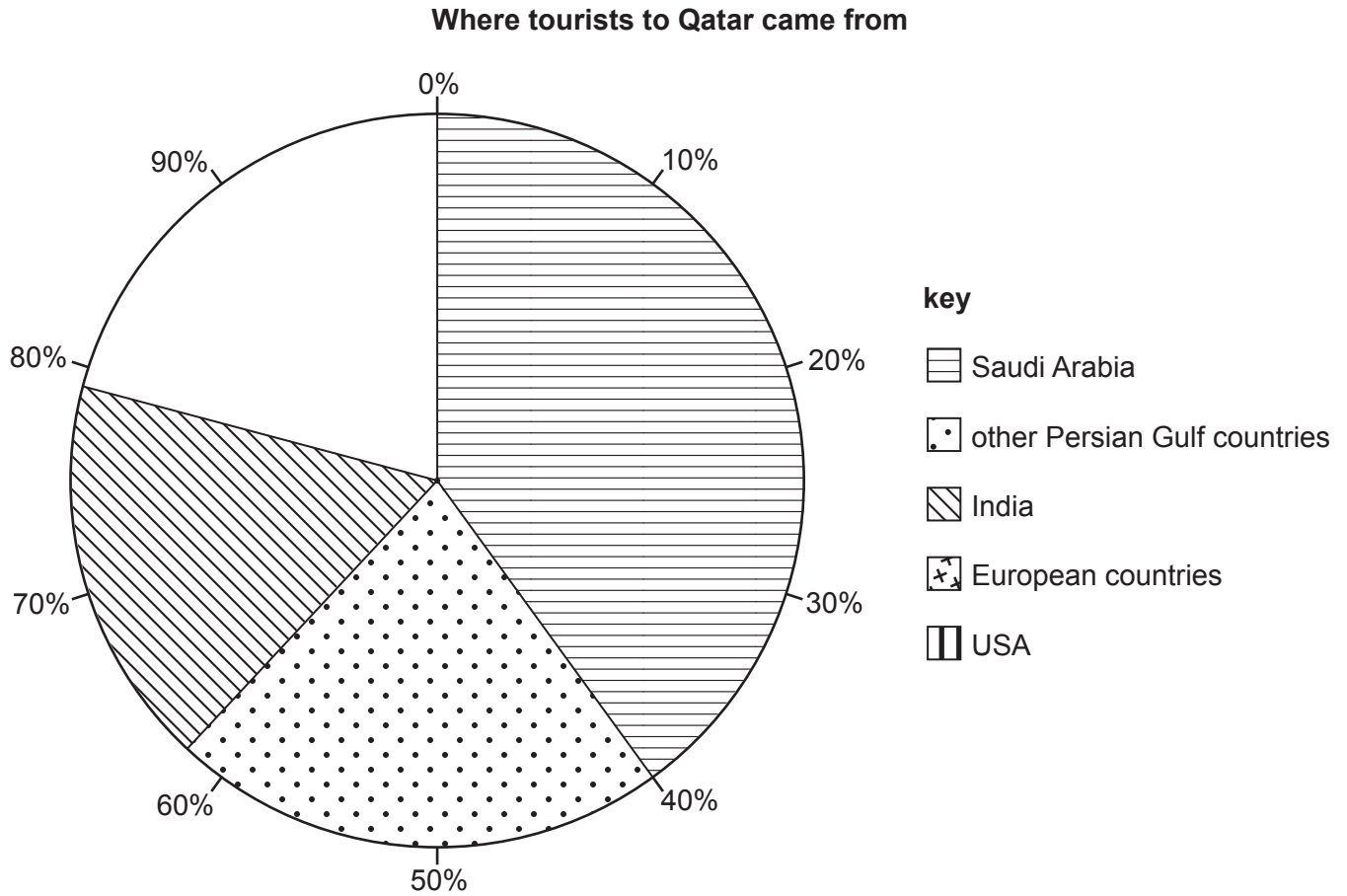


Figure 1.8

- (ii) Table 1.3 (Insert) shows the results from question 2 in the questionnaire: Which of the following attractions are you visiting in Qatar?

Plot the data for Pearl Qatar man-made island on Figure 1.9.

[1]

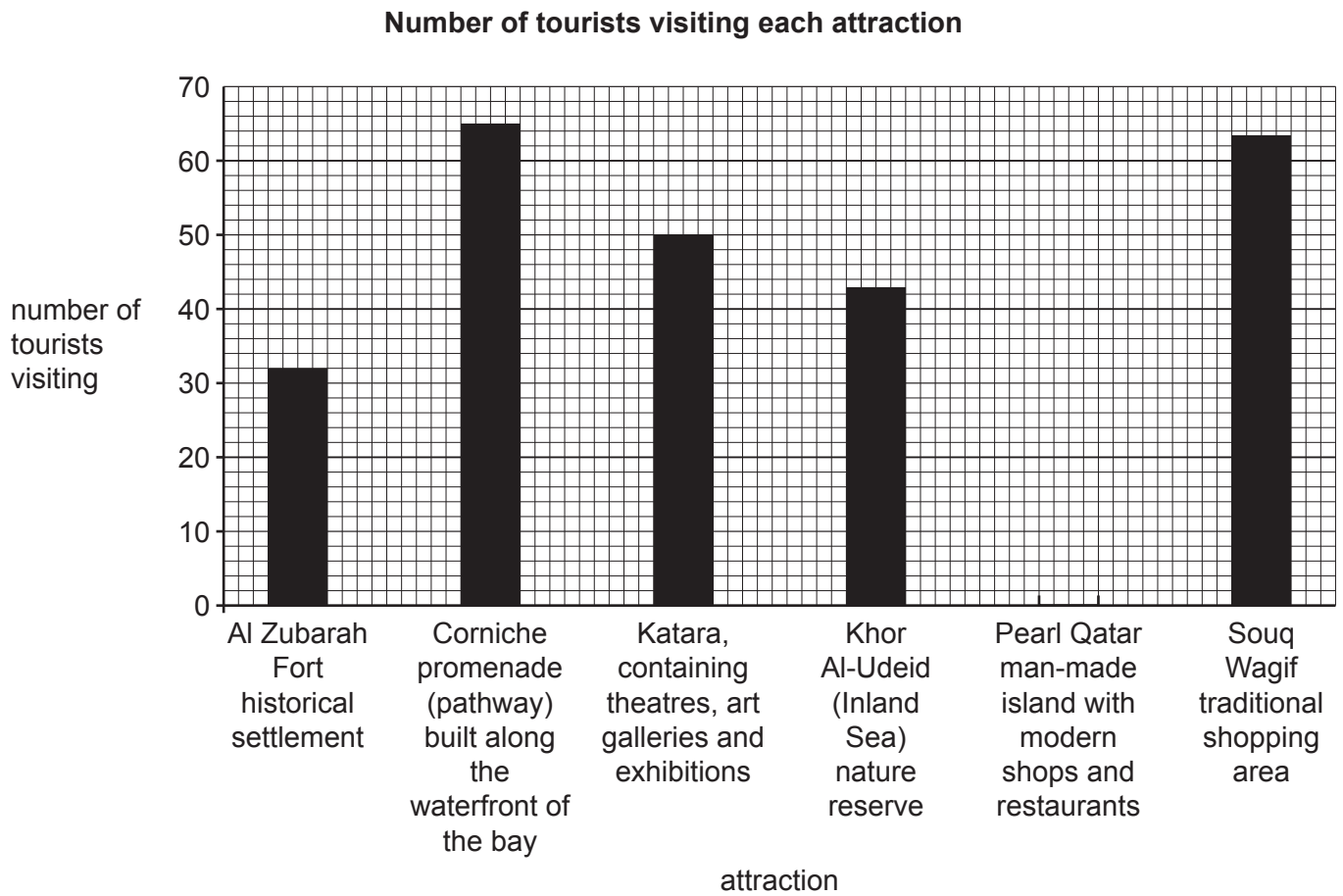


Figure 1.9

- (iii) From their results, the students concluded that tourists mainly came to Qatar to visit human attractions.

What evidence from Figure 1.9 and Table 1.3 supports their conclusion?

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..... [3]

[Total: 30]

Turn over

- 2 Students in Auckland, New Zealand, investigated how a local river changed downstream. They did fieldwork at five sites along the River Orere.

Two hypotheses which the students tested were:

Hypothesis 1: The wetted perimeter of the river channel increases downstream.
(The wetted perimeter is the part of the river channel cross-section which is in contact with the water.)

Hypothesis 2: The size of rocks on the river bed changes downstream.

(a) First, the students planned their fieldwork.

- (i) Suggest **three** factors the students should consider when choosing their fieldwork sites.

1

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2

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3

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[3]

- (ii) Suggest how the students should prepare for the fieldwork tasks so their measurements would be accurate.

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..... [3]

- (b) To investigate **Hypothesis 1**, the students measured the wetted perimeter of the river channel.

Their method is shown in Figure 2.1 (Insert).

- (i) Suggest **three** difficulties of this method of measuring the wetted perimeter of the channel.

1

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2

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3

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[3]

- (ii) The students' measurements are shown in Table 2.1 (Insert). What conclusion did the students make about **Hypothesis 1**: The wetted perimeter of the river channel increases downstream?

Use data from Table 2.1 to support your decision.

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..... [2]

- (iii) The length of the wetted perimeter of the channel is one factor which affects a river's velocity (speed of flow).

State **three** other factors which also affect the river's velocity.

1

2

3

[3]

- (c) The students investigated **Hypothesis 2**: The size of rocks on the river bed changes downstream.

They randomly picked 10 rocks from the bed of the River Orere at each fieldwork site.

- (i) Give **one** advantage and **one** disadvantage of this sampling method.

advantage

.....

disadvantage

.....

[2]

- (ii) The students measured the length of each rock. Which piece of fieldwork equipment from the following table would they use to accurately measure each rock they selected?

Tick (✓) **one** answer.

equipment	tick (✓)
anemometer	
callipers	
clinometer	
hygrometer	
ranging pole	

[1]

(iii) Figure 2.2 shows the results of the students' measurements.

Plot the following data for site 4 on Figure 2.2.

length of one individual rock at site 4	18 cm
average length of rocks picked at site 4	15.5 cm

[2]

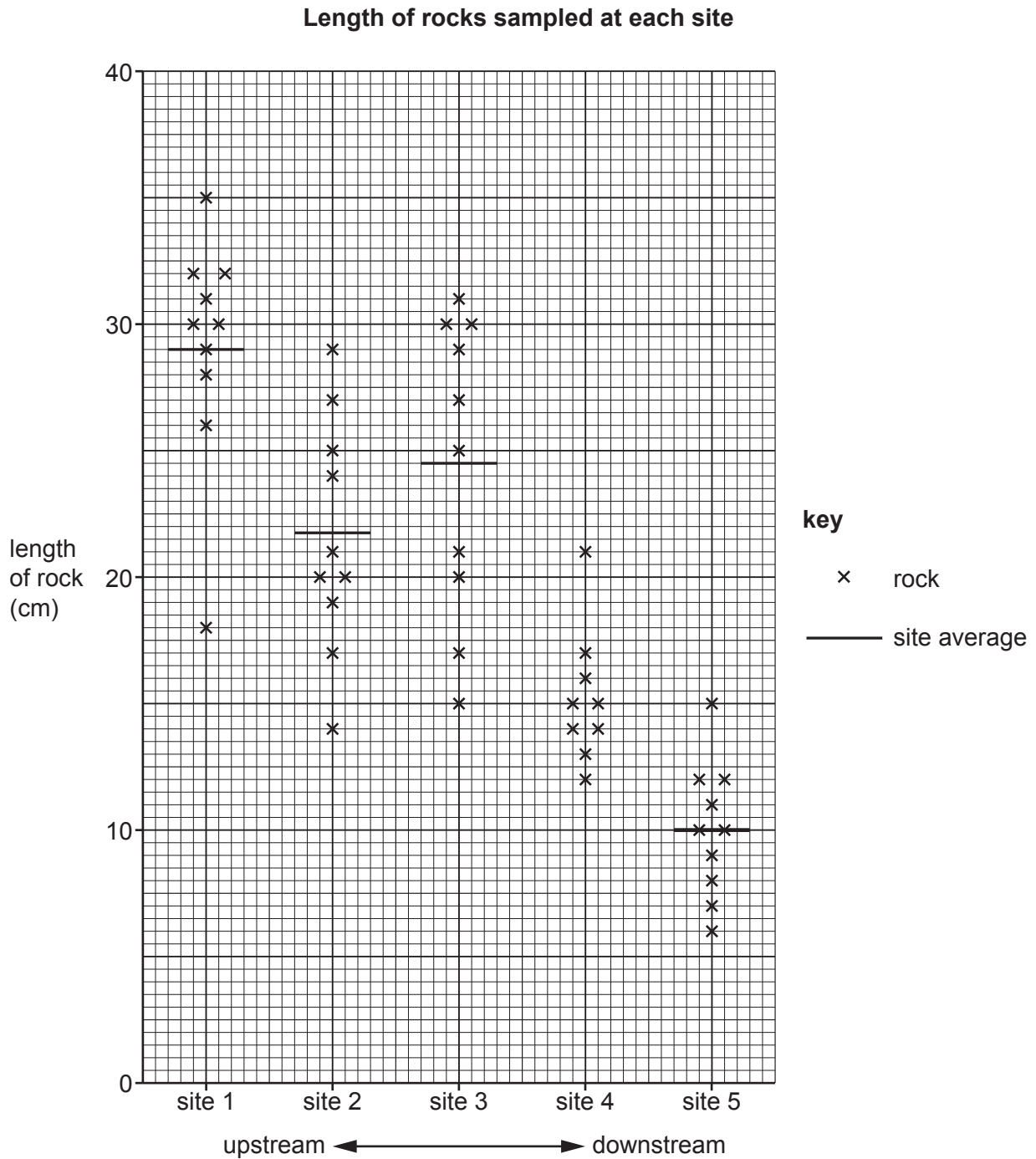


Figure 2.2

- (iv) The students decided that **Hypothesis 2**: The size of rocks on the river bed changes downstream was true.

Use evidence from Figure 2.2 to support this decision.

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..... [3]

- (d) Suggest **three** ways that the students could improve their data collection methods to make their results for both hypotheses more reliable.

1

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2

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3

..... [3]

- (e) To extend their fieldwork, the students measured the velocity (speed of flow) of the River Orere at the five fieldwork sites.

- (i) Suggest a hypothesis which the students could test about how river velocity changes downstream.

.....

..... [1]

(ii) Describe a suitable method to test the hypothesis suggested in **2(e)(i)**.

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..... [4]

[Total: 30]

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Additional page

If you use the following page to complete the answer to any question, the question number must be clearly shown.

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