

CANDIDATE
NAME

CENTRE
NUMBER

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CANDIDATE
NUMBER

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GEOGRAPHY

2217/23

Paper 2

May/June 2016

2 hours 15 minutes

Candidates answer on the Question Paper.

Additional Materials: Ruler
 Calculator
 Protractor
 Plain paper

1:50 000 Survey Map Extract is enclosed with this Question Paper.

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name in the spaces provided.
Write in dark blue or black pen.
You may use an HB pencil for any diagrams or graphs.
Do not use staples, paper clips, glue or correction fluid.
DO NOT WRITE IN ANY BARCODES.

Section A

Answer **all** questions.

Section B

Answer **one** question.

The Insert contains Photograph A for Question 4, Tables 1, 2 and 3 for Question 7, and Figs. 14, 16, 19 and Tables 5 and 6 for Question 8.

The Survey Map Extract and the Insert are **not** required by the Examiner.

Sketch maps and diagrams should be drawn whenever they serve to illustrate an answer.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [] at the end of each question or part question.

This document consists of **35** printed pages, **1** blank page and **1** Insert.

TURN PAGE FOR QUESTION 1(d)

(d) Study Fig. 1, which shows three cross sections **A**, **B** and **C**.

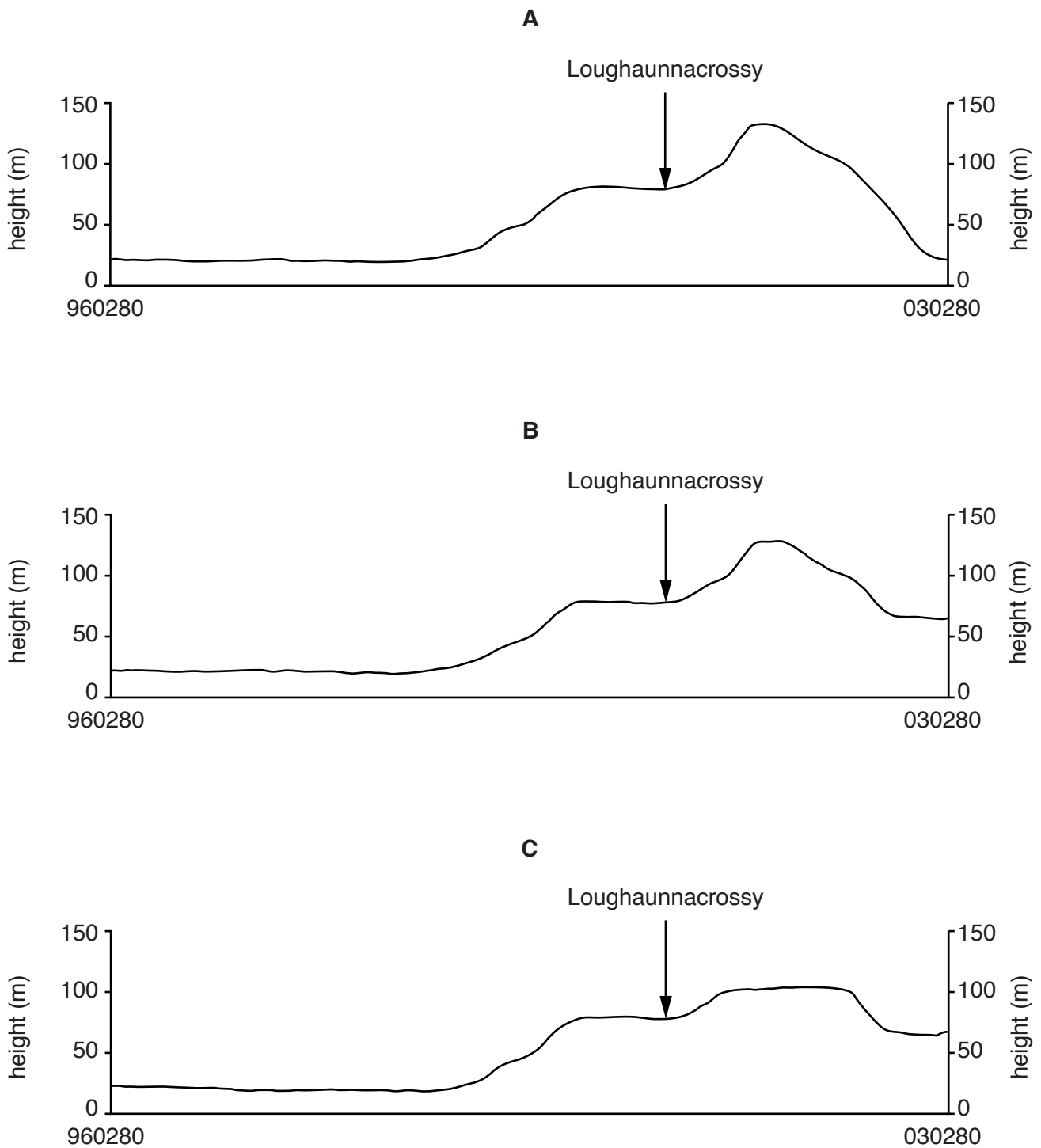


Fig. 1

(i) Which cross section gives the most accurate representation of the land from 960280 to 030280?

.....[1]

(ii) On your chosen cross section, label the following features using the given letters:

- R336 road (**R**);
- Cashla River (**S**);
- Third class road (**T**). [3]

(iii) Explain why it is not possible to mark the position of the triangulation pillar on Bovroughaun Hill onto the cross section.

.....
.....[1]

(e) Buildings are shown as small black rectangles. Describe the distribution of buildings seen on the map.

.....
.....
.....
.....
.....
.....
.....[3]

[Total: 20 marks]

2 Study Fig. 2, which shows population growth rate in Bangladesh.

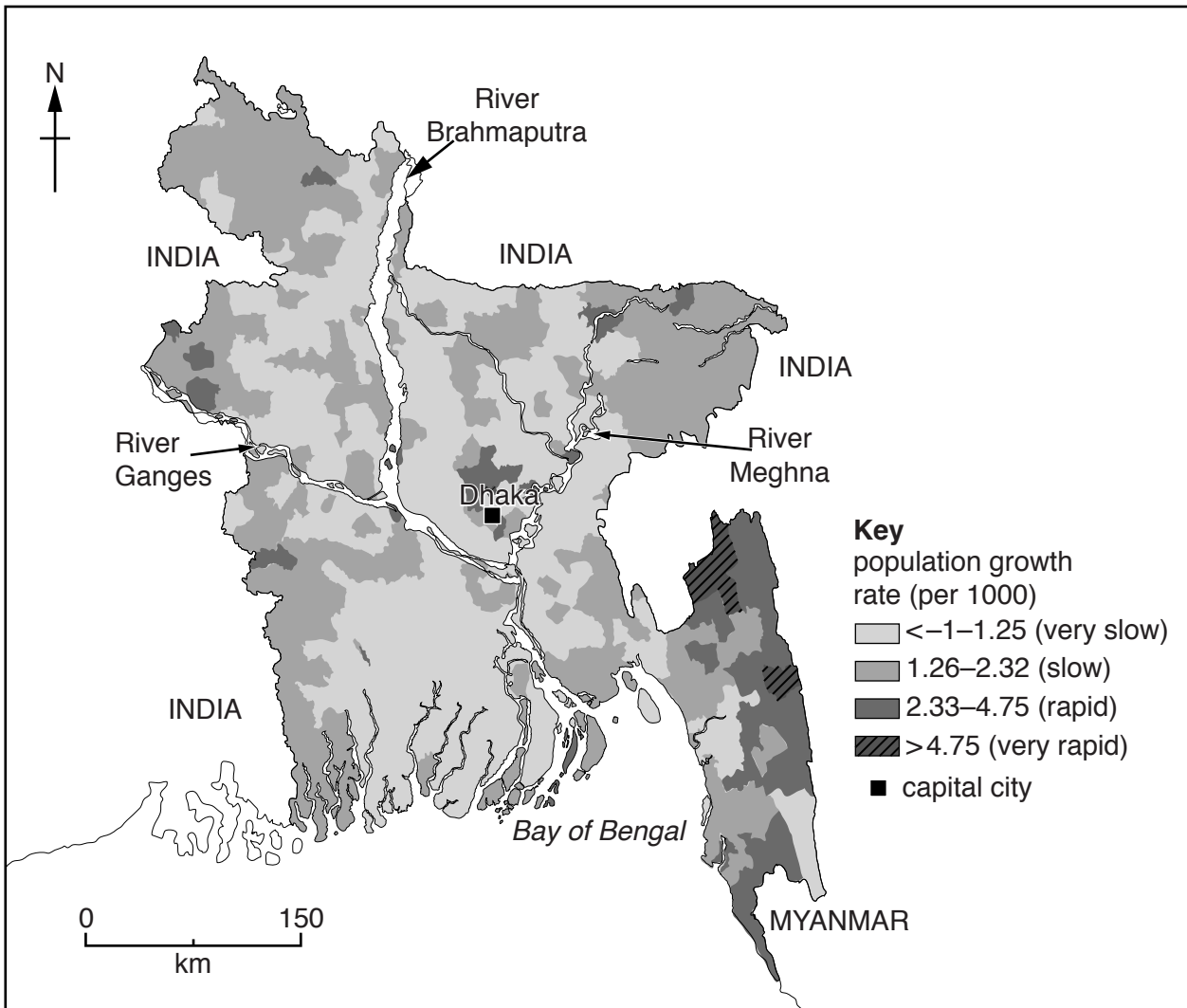


Fig. 2

(a) (i) The lowest growth rates on Fig. 2 are less than 0. What does it mean to have a growth rate of less than 0?

.....
[1]

(ii) Describe the location of areas with a growth rate of between 2.33 per 1000 and 4.75 per 1000.

.....

[4]

(b) Fig. 3 shows the population density of Bangladesh.

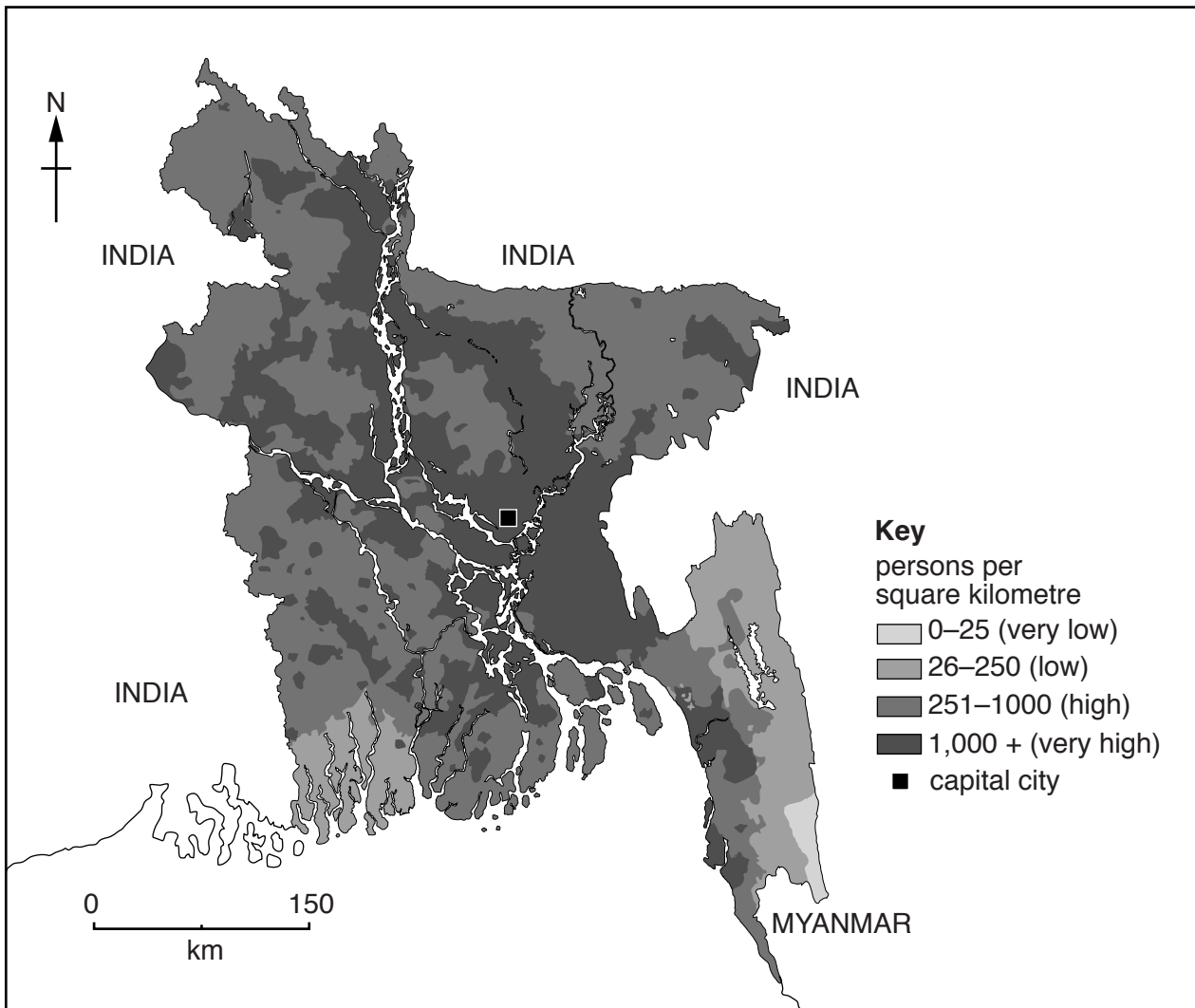


Fig. 3

On Fig. 3, use the given letters to locate **one** example of each of the following areas:

- **X** = a very high population density and a very rapid growth rate;
- **Y** = a very low population density and a very slow growth rate;
- **Z** = a population density of 26–250 people per km² and a growth rate of more than 4.75 per thousand. [3]

[Total: 8 marks]

- 3 Study Fig. 4, a hazard map, for a volcanic area on the island of Dominica. A hazard map shows predicted results of an eruption.

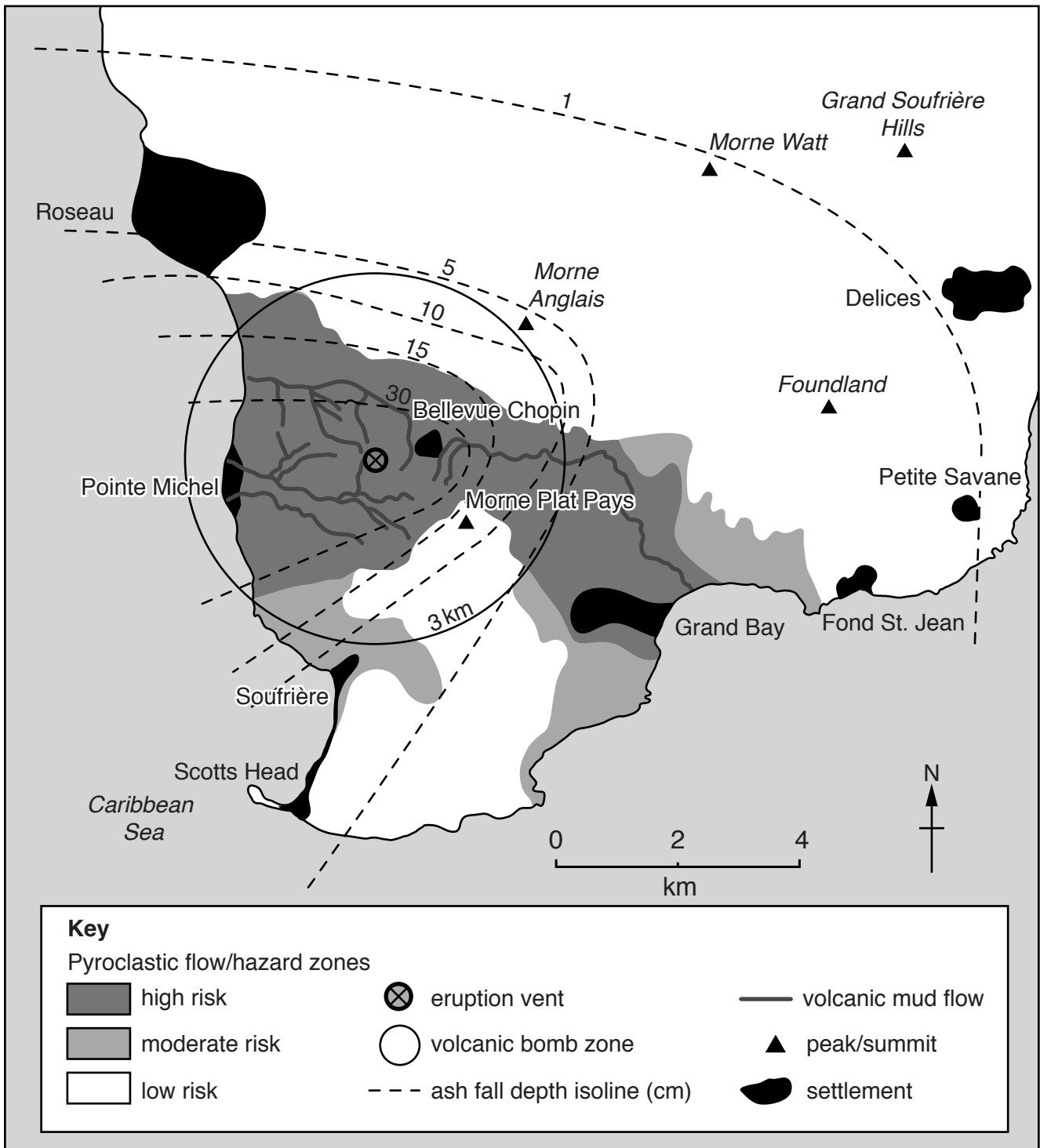


Fig. 4

(a) Describe the location of Pointe Michel, in relation to the position of the vent.

.....
.....
.....
.....[2]

(b) For Pointe Michel, use Fig. 4 to give the following information:

- pyroclastic flow risk level;

.....

- minimum ashfall depth;

.....

- **two** other volcanic hazards threatening the settlement.

.....

.....[4]

(c) (i) Which settlement shown on Fig. 4 would be least affected by an eruption?

.....[1]

(ii) Which wind direction could result in higher than predicted ash fall in Roseau?

.....[1]

[Total: 8 marks]

4 Study Photograph A (Insert), which shows a landscape in a tropical area.

(a) Describe the vegetation shown in Photograph A.

.....
.....
.....
.....
.....
.....
.....
.....
.....
..... [4]

(b) How would the vegetation in a hot desert environment differ from that shown in Photograph A?

.....
.....
.....
.....
.....
.....
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.....
.....
.....
.....
..... [4]

[Total: 8 marks]

5 Study Fig. 5, which shows the major producers of cassava, a root crop.

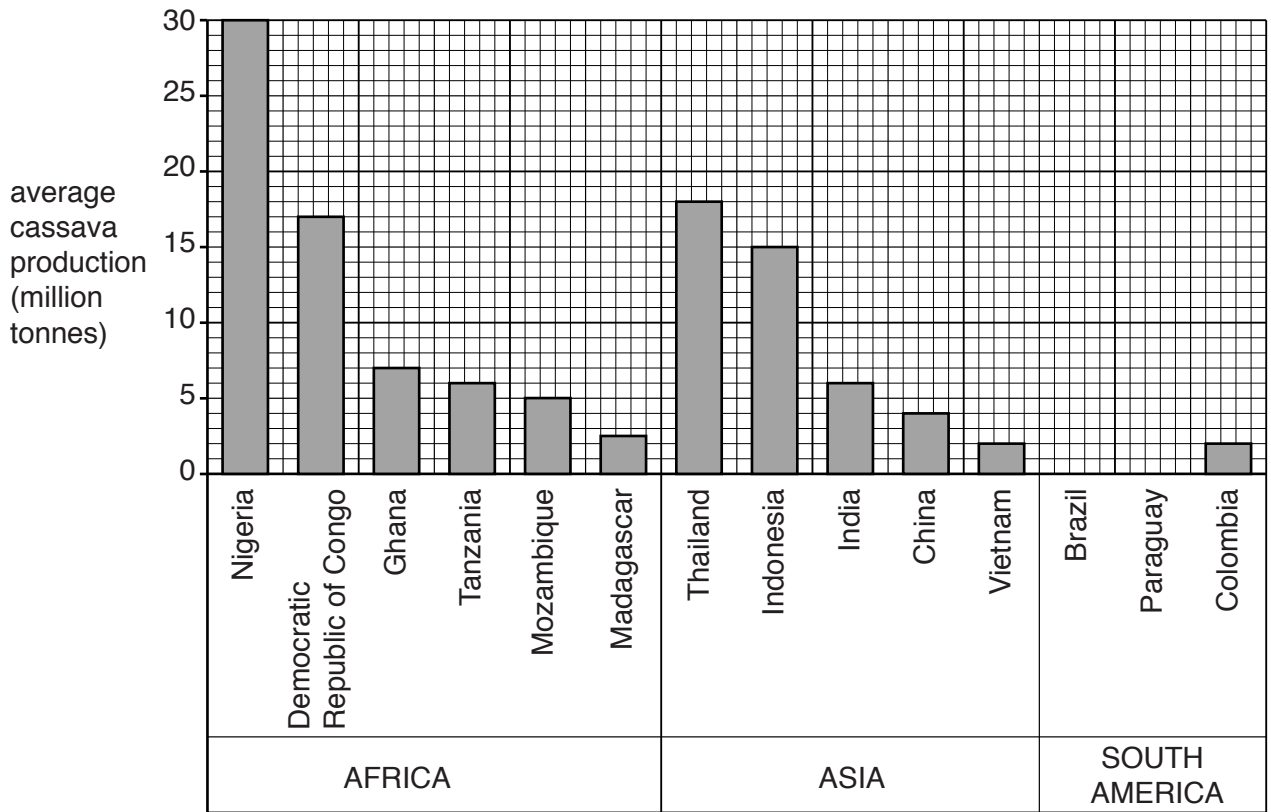


Fig. 5

- (a) (i) Which continent produces the most cassava?
[1]
- (ii) Which country is the largest producer within Asia?
[1]
- (iii) Complete Fig. 5 to show that an average of 24 million tonnes of cassava is produced in Brazil and 3 million tonnes in Paraguay. [2]

- (b) Cassava roots need to be processed to extract useful products. Study Fig. 6, information about the effects of cassava processing.

Cassava processing uses natural resources and creates pollution. New methods of processing have been developed. These more mechanised methods are more water intensive. They are often used in areas of water scarcity because the crop can grow in drought conditions and demand has increased. Starch extraction results in contaminated water, while other forms of processing produce dust waste.

Fig. 6

- (i) Name **two** types of pollution resulting from cassava processing.

.....
.....[2]

- (ii) Suggest why processing now uses more water than traditional processing.

.....
.....
.....
.....[2]

[Total: 8 marks]

6 Study Fig. 7, which shows the results of a survey of the activities of UK tourists to Scotland.

Activities of UK tourists to Scotland (2006)

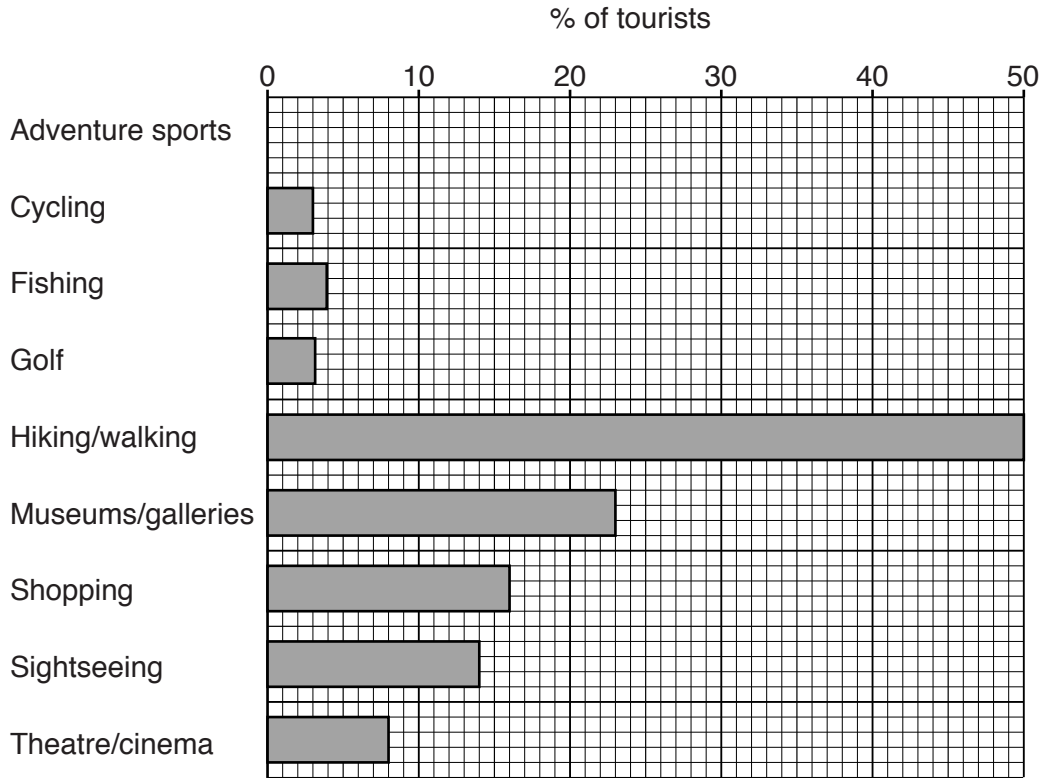


Fig. 7

- (a) (i) Complete Fig. 7 to show 5% participated in Adventure Sports. [1]
- (ii) What percentage of tourists participated in sightseeing?
.....[1]
- (iii) Which **two** activities showed equal results?
.....[1]
- (iv) Which was the most popular indoor activity?
.....[1]

(b) Study Fig. 8, which shows the activities of tourists to Ireland.



Fig. 8

(i) Which **two** activities are shown on Fig. 8 but not on Fig. 7?

.....[2]

(ii) Does this mean that no-one in Scotland did these activities? Explain your answer.

.....

[1]

(iii) Hiking / walking is the most popular visitor activity in both countries. Explain why it would be difficult to compare the data for hiking / walking on Figs. 7 and 8.

.....

[1]

[Total: 8 marks]

TURN PAGE FOR QUESTION 7

- (b) To find out the number of people in the two shopping areas the students did pedestrian counts at three locations in each area.
 - (i) Describe how the students could organise and carry out the pedestrian counts to get reliable results.

Organise the pedestrian counts

.....

.....

.....

.....

.....

.....

.....

Carry out the pedestrian counts

.....

.....

.....

.....

.....

.....

.....[5]

- (ii) The results of the pedestrian counts are shown in Table 1 (Insert). Use these results to complete Fig. 9 below by plotting the number of pedestrians at location 3 in Spandau Arcaden and at location 2 in Pichelsdorfer Strasse. [2]

Results of pedestrian counts

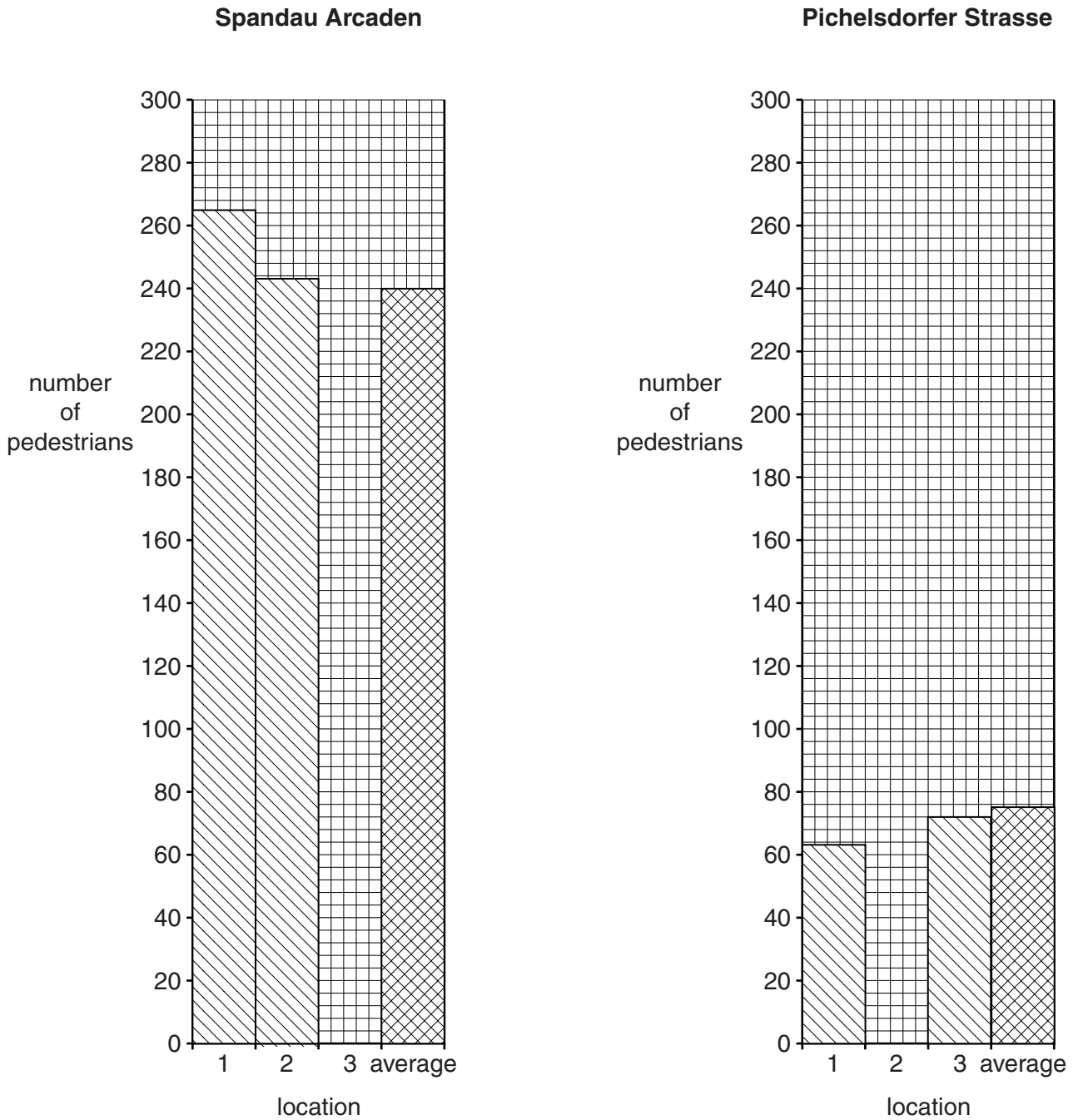


Fig. 9

- (c) To test both hypotheses the students also needed to put the shops into two groups to show whether they sold convenience (low order) goods or comparison (high order) goods.
- (i) Which **one** of the following statements about comparison and convenience goods is correct? Tick (✓) your choice.

	Tick (✓)
Comparison goods are imported and convenience goods are produced locally	
Comparison goods are more difficult to transport than convenience goods	
Comparison goods are better quality than convenience goods	
Comparison goods are usually more expensive than convenience goods	
Comparison goods are bought more frequently than convenience goods	

[1]

- (ii) In each shopping area the students grouped the shops into those selling either convenience goods or comparison goods. Their results are shown in Table 2 (Insert). Use these results to complete Fig. 10 below. [2]

Types of shops in the two shopping areas

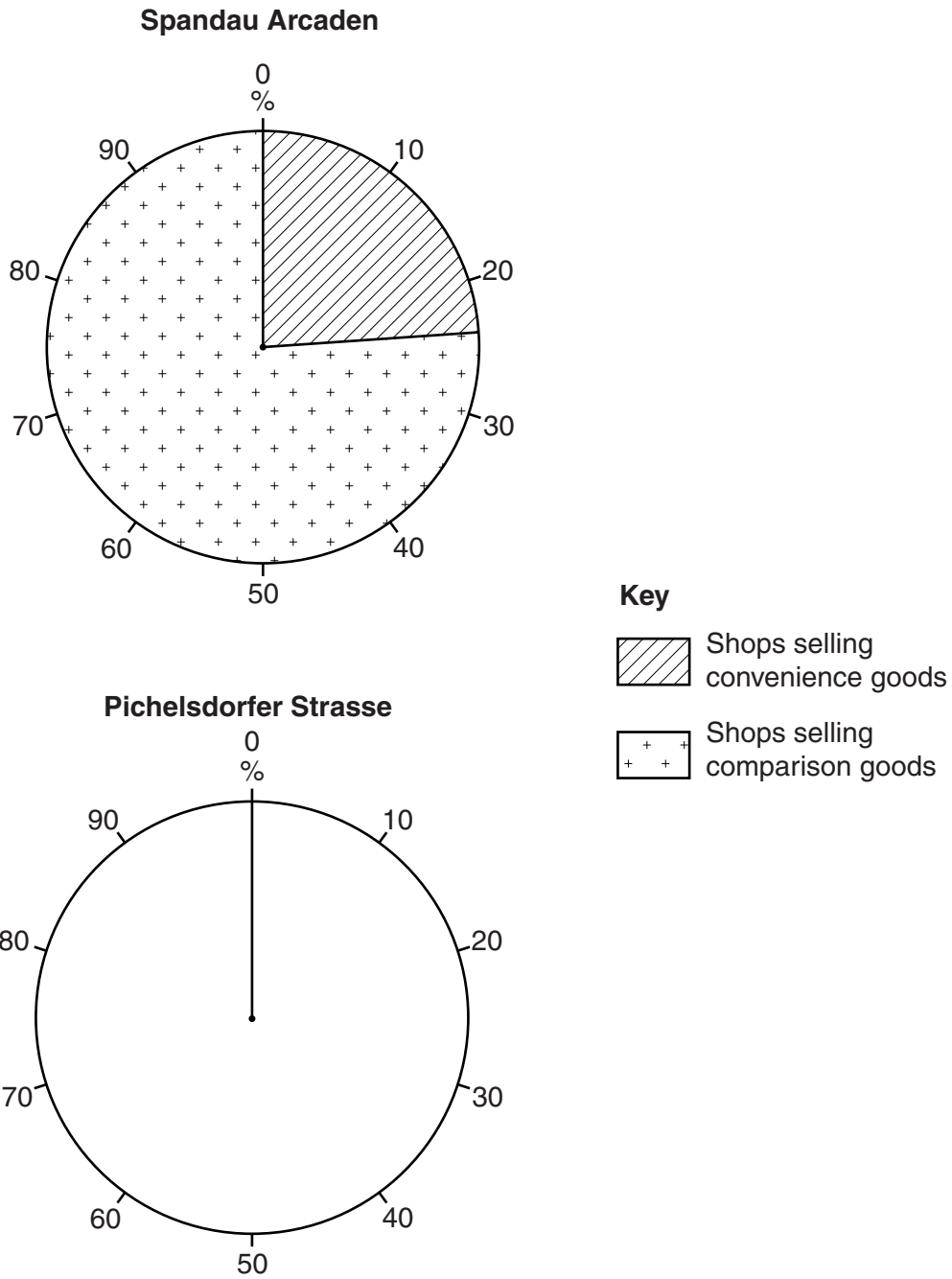


Fig. 10

(iii) Do the results of the pedestrian count and the shop survey support **Hypothesis 1: There will be more people in the area where more shops sell comparison goods?** Use evidence from Figs. 9 and 10 and Tables 1 and 2 to support your answer.

.....
.....
.....
.....
.....
.....[3]

(d) To investigate **Hypothesis 2: The area where more shops sell comparison goods (Spandau Arcaden) has a larger sphere of influence in Berlin than the area where more shops sell convenience goods (Pichelsdorfer Strasse),** the students needed to find out where people who were shopping in the two areas came from.

(i) One student wanted to ask people 'Where do you live?' Suggest **two** reasons why their teacher said that this question should not be asked.

1
.....
2
.....[2]

- (ii) The students agreed to ask people 'In which borough of Berlin do you live?' The answers to this question are shown in Table 3 (Insert). They displayed the results for the two shopping areas in choropleth maps. These are shown in Fig. 11 below and Fig. 12 on page 23.

Where people shopping at Spandau Arcaden came from

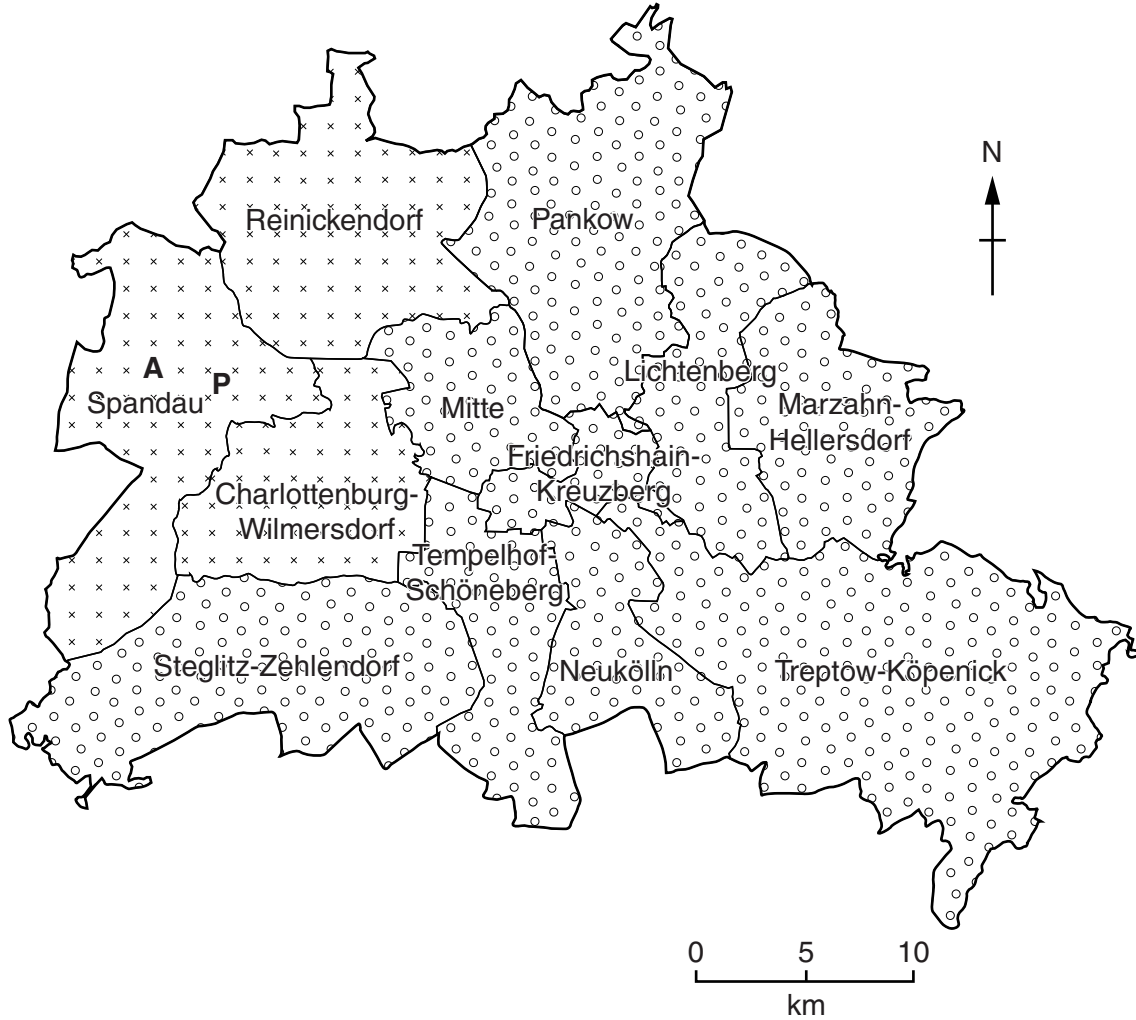


Fig. 11

Key (for Figs. 11 and 12)

% of people interviewed

	more than 50	A	Spandau Arcaden
	26–50	P	Pichelsdorfer Strasse
	10–25		
	1–9		
	0		

Where people shopping at Pichelsdorfer Strasse came from

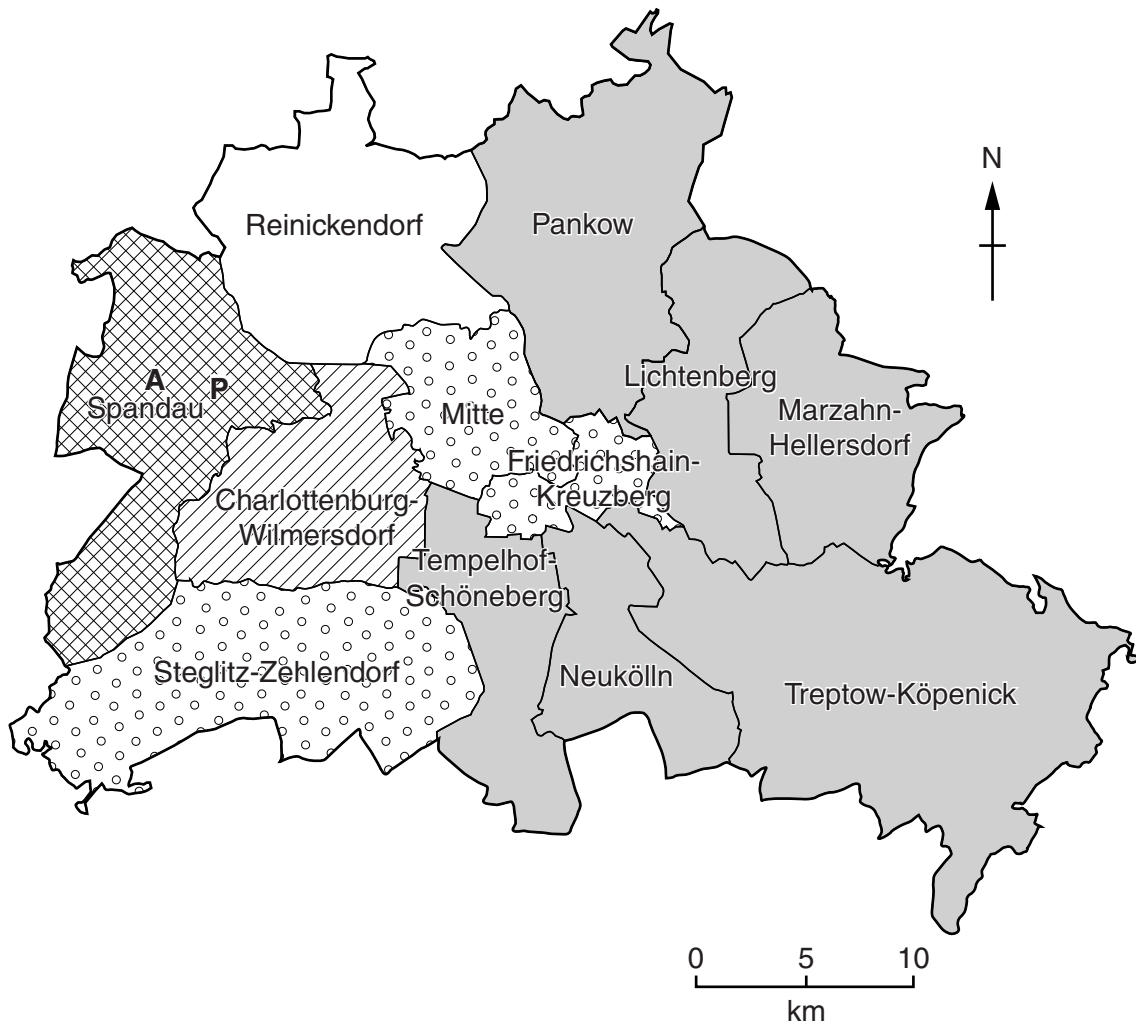


Fig. 12

Complete Fig. 12 by shading the percentage of people who were shopping at Pichelsdorfer Strasse which came from Reinickendorf. [1]

(iii) Give **one** advantage and **one** disadvantage of a choropleth map for displaying the data.

Advantage

.....

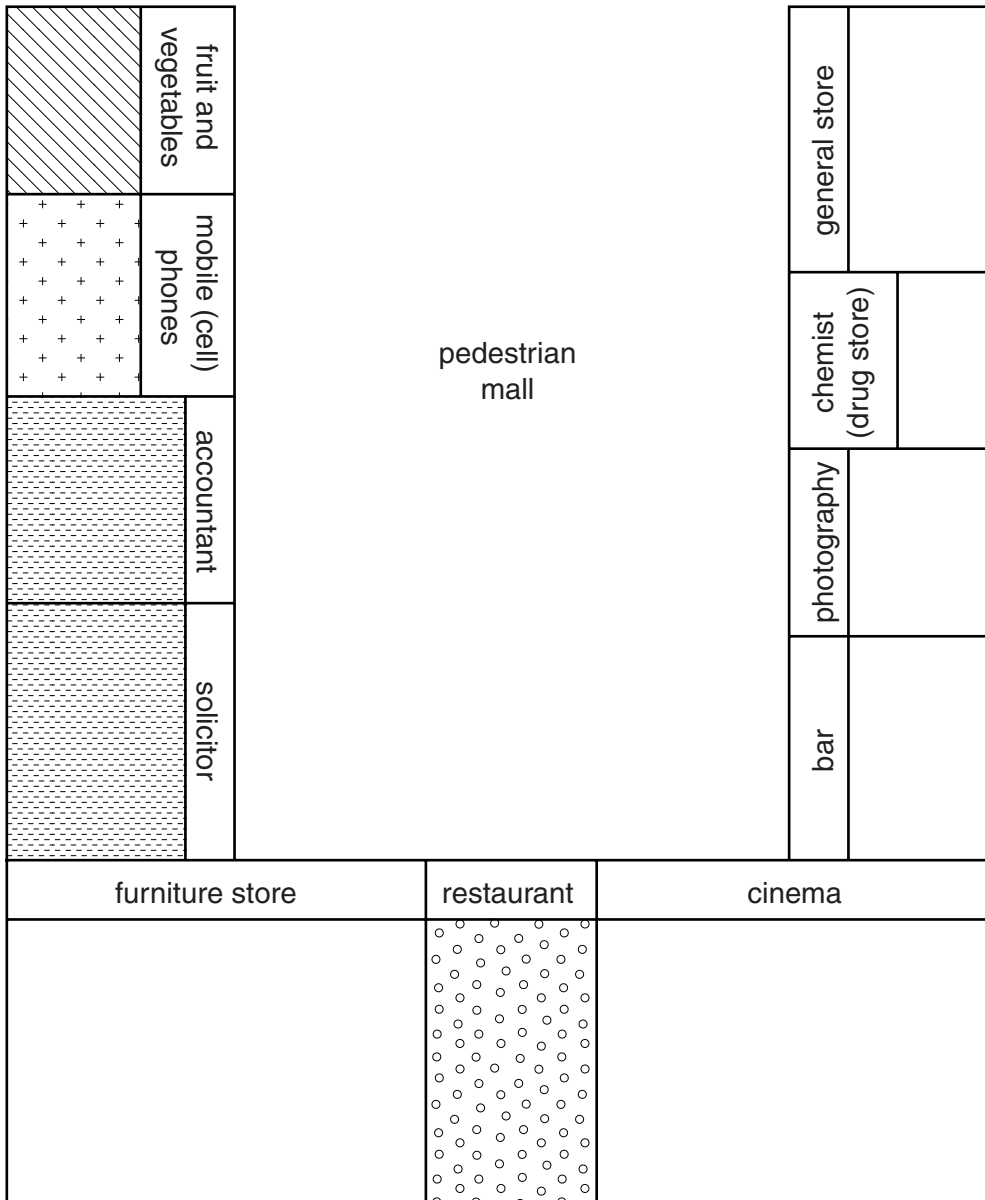
.....

Disadvantage

.....

.....[2]

Sketch map of part of Spandau Arcaden



Key

Land use type



Fig. 13

- 8 Students who live in North East England visited the local coast to do two pieces of fieldwork. This coastal area is shown in Fig. 14 (Insert). They wanted to investigate the impact of groynes on longshore drift and to find out what local people thought about the different types of coastal defences in the area.

A groyne is a structure, usually made of wood or concrete, built out into the sea.

The students decided to investigate the following hypotheses:

Hypothesis 1: *Groynes reduce the movement of material along a beach.*

Hypothesis 2: *Local people are in favour of the coastal defences used in the area.*

- (a) (i) The students knew that longshore drift is usually related to the wind direction.

Describe how the students could work out the wind direction at the beach.

.....
.....
.....
.....[2]

TURN PAGE FOR QUESTION 8(b)

- (b) To test **Hypothesis 1** the students made some measurements at three groynes on the beach.
- (i) They measured the height of the top of each groyne above the beach. This technique is shown in Fig. 16 (Insert).

The results are shown in Table 4 below.

Table 4

Measurements from top of groyne to beach

Groyne	Height of groyne above beach (m)	
	South side	North side
A	0.45	1.03
B	0.64	1.15
C	0.48	0.88

Use these results to complete Fig. 17 opposite by plotting the height of groyne C above the beach on the north side. [1]

- (ii) Suggest **two** ways that the students could have improved the reliability of their measurements.

1

.....

2

.....[2]

- (iii) What conclusion would the students make to **Hypothesis 1**: *Groynes reduce the movement of material along a beach*? Support your answer with evidence from Fig. 17.

.....

.....

.....

.....

.....

.....[3]

Height of the groyne above the beach

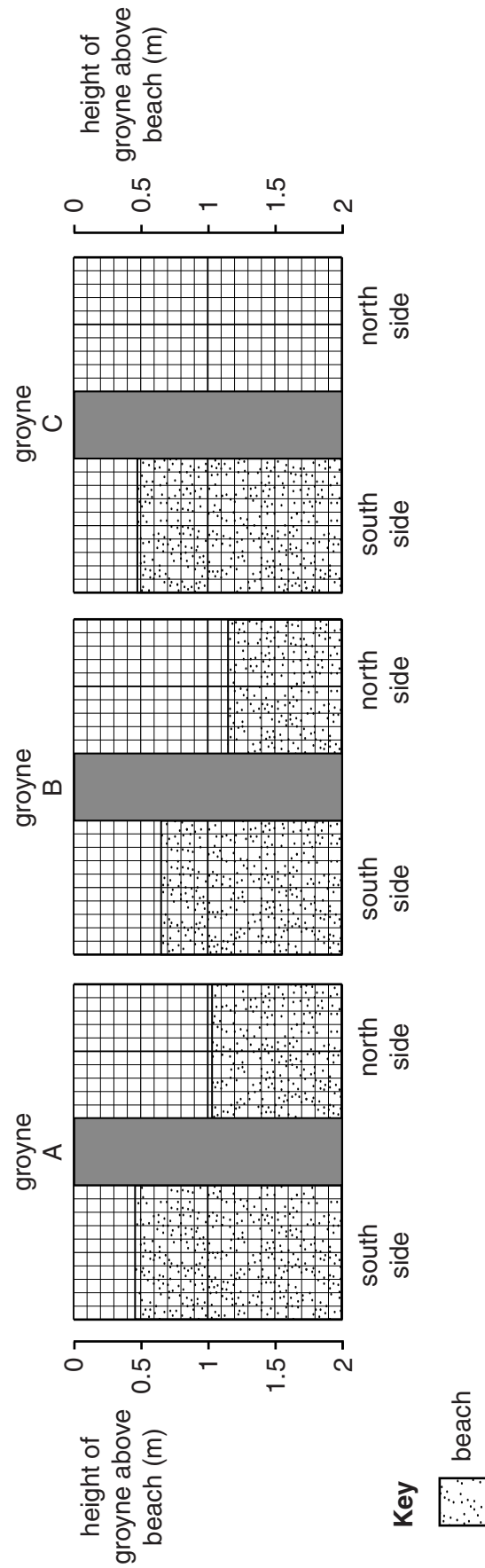


Fig. 17

- (c) Along the coast of North East England the land use and coastal defences vary. Fig. 18, below, shows the different land uses and coastal defences at five locations visited by the students. These locations are shown in Fig. 14 (Insert).

Land use and coastal defences

Location	Land use	Features of the coastline/ coastal defences
Newbiggin	Popular holiday resort	Rip raps, offshore bar, curved sea wall, revetments, beach replenishment
Sandy Bay	Caravan site on top of cliffs	Boulders fallen from the cliff
South Beach	Popular tourist beach and shops	Groynes, sea wall (promenade)
Hartley Links	Cattle farming on top of cliffs	Wide beach and sand dunes with marram grass
Collywell Bay	Residential area and main road	High sea wall

Fig. 18

- (i) Identify **two** locations where no coastal defences have been built.

..... and [1]

- (ii) Identify **two** locations where defences have been built to protect the coast.

..... and [1]

- (iii) Suggest why some of these coastal areas have more defences than others.

.....

 [4]

(d) To investigate **Hypothesis 2**: *Local people are in favour of the coastal defences used in the area*, the students did a questionnaire survey at the five locations on the coast which are shown in Fig. 14 (Insert). The questionnaire is shown in Fig. 19 (Insert).

(i) Why did the students ask Question 1, 'Do you know that there are sea defences along the coast?'

.....
.....[1]

(ii) Suggest **two** pieces of information usually included in a questionnaire which the students have missed out.

1

.....

2

.....[2]

(e) The answers to Question 2 about the opinions that the people surveyed had about the coastal defences are shown in Table 5 (Insert).

(i) Complete the results for the opinion 'The coastal defences are unsightly' in Fig. 20 below. [3]

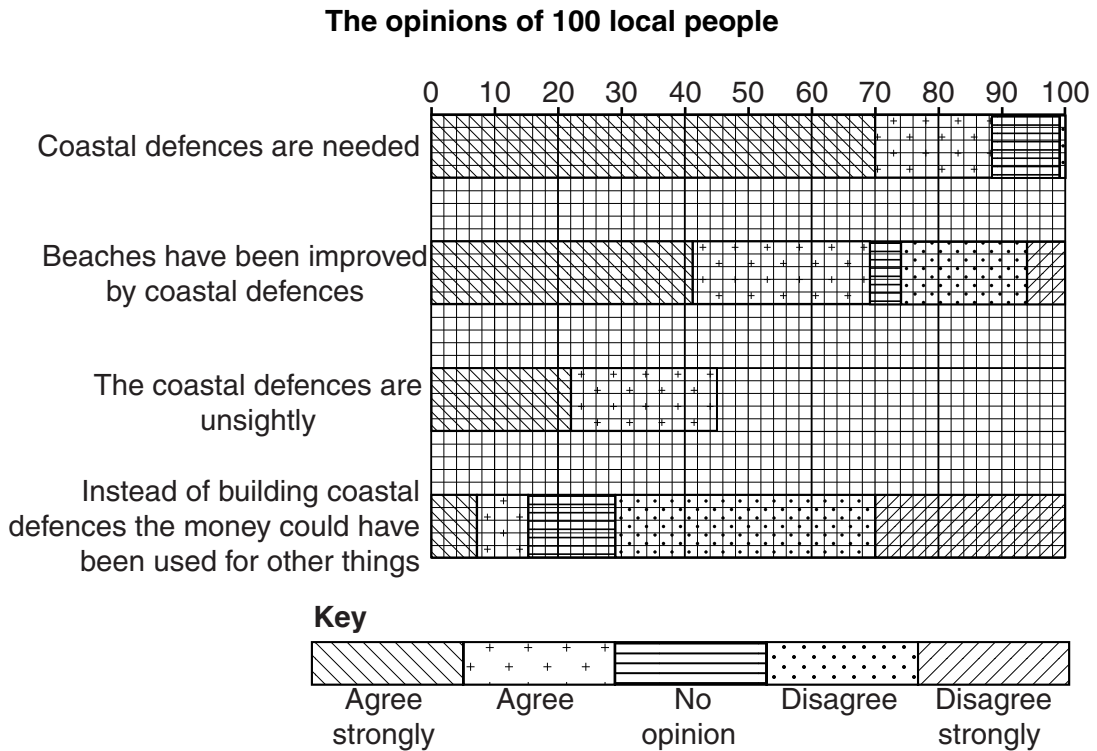


Fig. 20

(ii) The students made the conclusion that **Hypothesis 2: Local people are in favour of the coastal defences used in the area** was generally true.

Support their conclusion with evidence from Fig. 20 and Table 5 (Insert).

.....[3]

(iii) The results of Questions 3 and 4 are shown in Table 6 (Insert). Why might the answers to Question 4 conflict with the opinions given by local people in Question 3?

.....[2]

[Total: 30 marks]

