



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education Ordinary Level

CANDIDATE
NAME

CENTRE
NUMBER

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CANDIDATE
NUMBER

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GEOGRAPHY

2217/22

Paper 2

October/November 2012

2 hours 15 minutes

Candidates answer on the Question Paper.

- Additional Materials:
- Calculator
 - Ruler
 - 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 a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, 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 3, Figs 8 and 9 and Tables 1 and 2 for Question 7, and Fig. 12 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.

For Examiner's Use	
Section A	
Q1	
Q2	
Q3	
Q4	
Q5	
Q6	
Section B	
Q7	
Q8	
Total	

This document consists of **22** printed pages, **2** blank pages and **1** Insert.



Section A

Answer **all** questions in this section.

1 Study the 1:50 000 map of Moores Grant, Zimbabwe.

(a) (i) Give the four figure grid reference of the square that contains Ox Bow Lake, beside the Murowodzi river.

..... [1]

(ii) Give the six figure grid reference for the tank between Moores Grant and Sable Peak.

..... [1]

(b) Study the area of the map shown in Fig. 1.

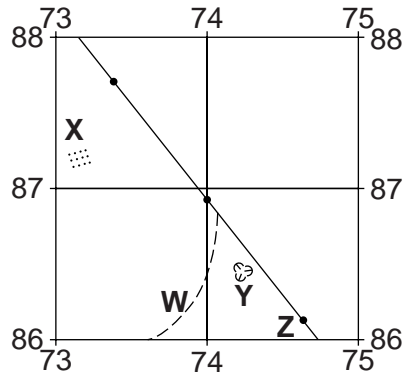


Fig. 1

(i) Identify:

- feature **W**;

.....

- feature **X**;

.....

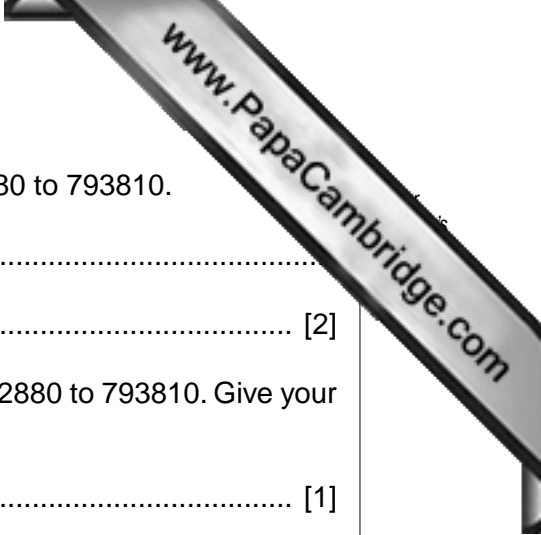
- feature **Y**;

.....

- feature **Z**.

..... [4]

(ii) On Fig. 1, mark the route of the gravel road found in the area of the map shown. [2]



(c) (i) Describe the direction of the wide tarred road from 732880 to 793810.

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

(ii) Measure the distance along the wide tarred road from 732880 to 793810. Give your answer in kilometres.

..... [1]

(d) Describe the distribution of the areas of dense bush in the area of the map extract.

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

(e) (i) Using map evidence **only**, identify **one** way of crossing the Murowodzi river.

..... [1]

(ii) Describe the physical features of the Murowodzi river.

.....
.....
.....
.....
.....
.....
.....
..... [5]

[Total: 20 marks]

2 Study Fig. 2, which shows percentage of river flow, for January to June 2010, compared with long term average conditions, in part of the UK, an MEDC in Europe.

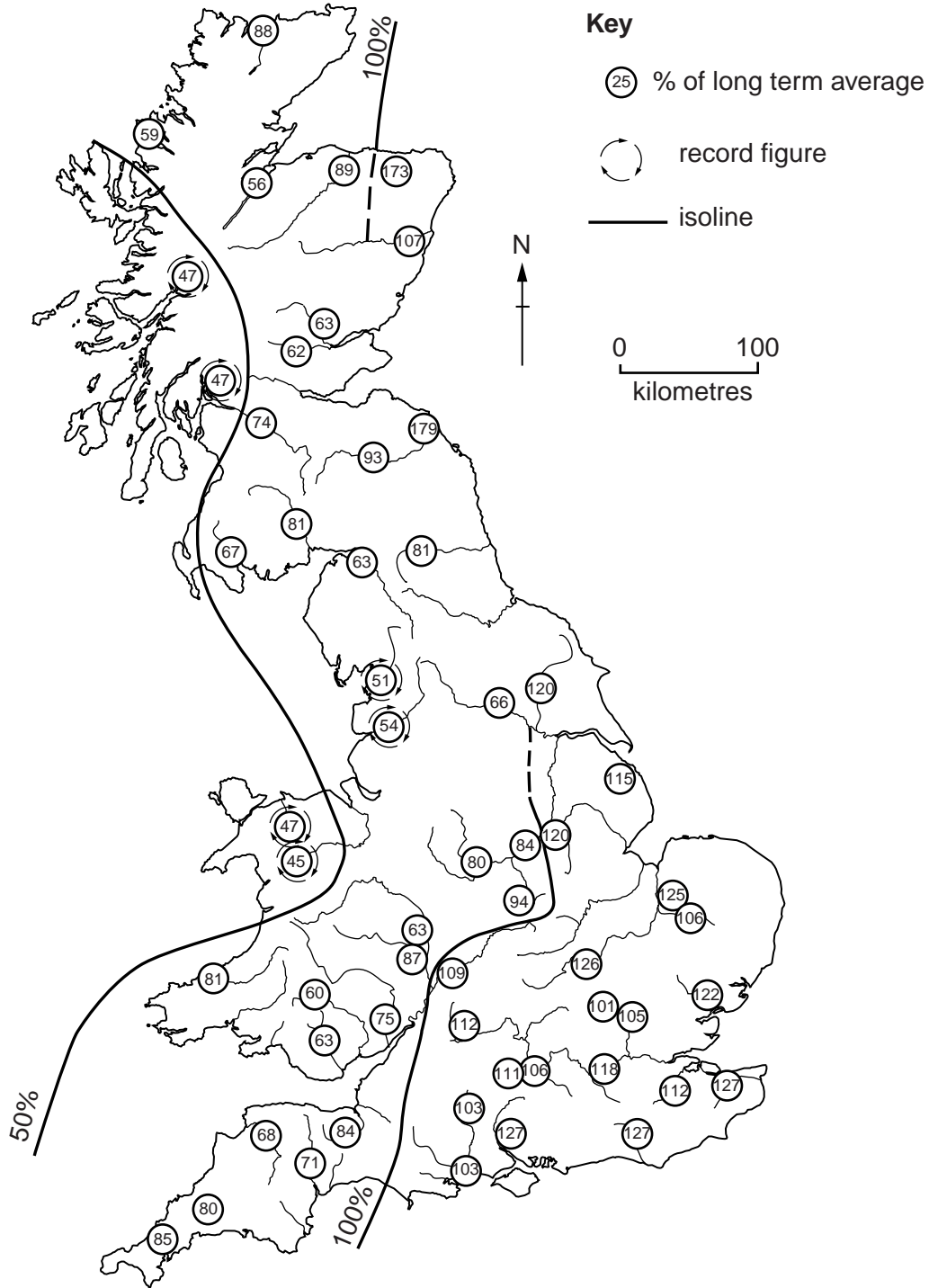


Fig. 2

(a) (i) Complete the 100% line, on Fig. 2, to separate the above average river flow from the below average river flow. [1]

(ii) Briefly describe the overall variation in river flow shown on Fig. 2.

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

(iii) How many locations received record low flow?

..... [1]

(b) Fig. 3 is a cross-section through a river channel, which relates level of low flow to average flow conditions.

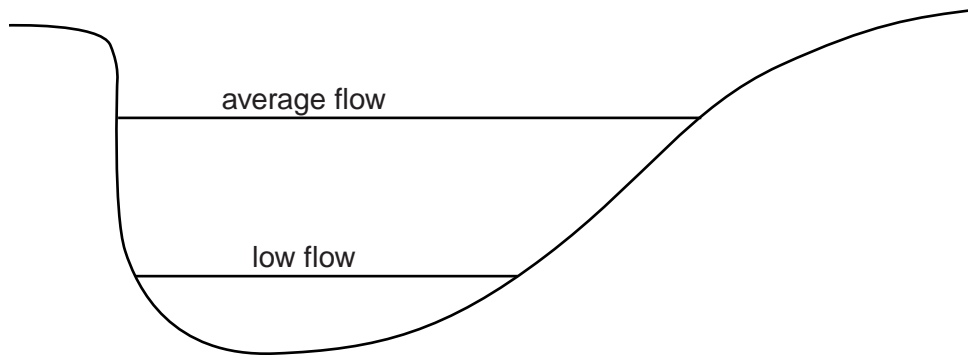


Fig. 3

Lower flow changes the characteristics of a river. As flow reduces, what happens to:

- depth;

.....

- speed of flow;

.....

- river processes?

.....

.....

.....

..... [4]

[Total: 8 marks]

3 (a) (i) Study Photograph A (Insert). Seven places, A–G, are marked on Photograph A. For each question write one letter in each box. You may use any of the letters more than once, more than once or not at all.

Which letter on Photograph A shows:

- a headland;
- an area covered with water at high tide;
- an area of deposition;
- the harbour wall?

[4]

(ii) Which one of the labelled routes 1, 2 or 3, would provide a route into the harbour, by boat, at both high and low tide?

..... [1]

(b) Using evidence from Photograph A **only**, suggest why tourists are attracted to the area.

.....

.....

.....

.....

.....

.....

..... [3]

[Total: 8 marks]

4 Study Fig. 4, which shows the main migration patterns for Brazil.

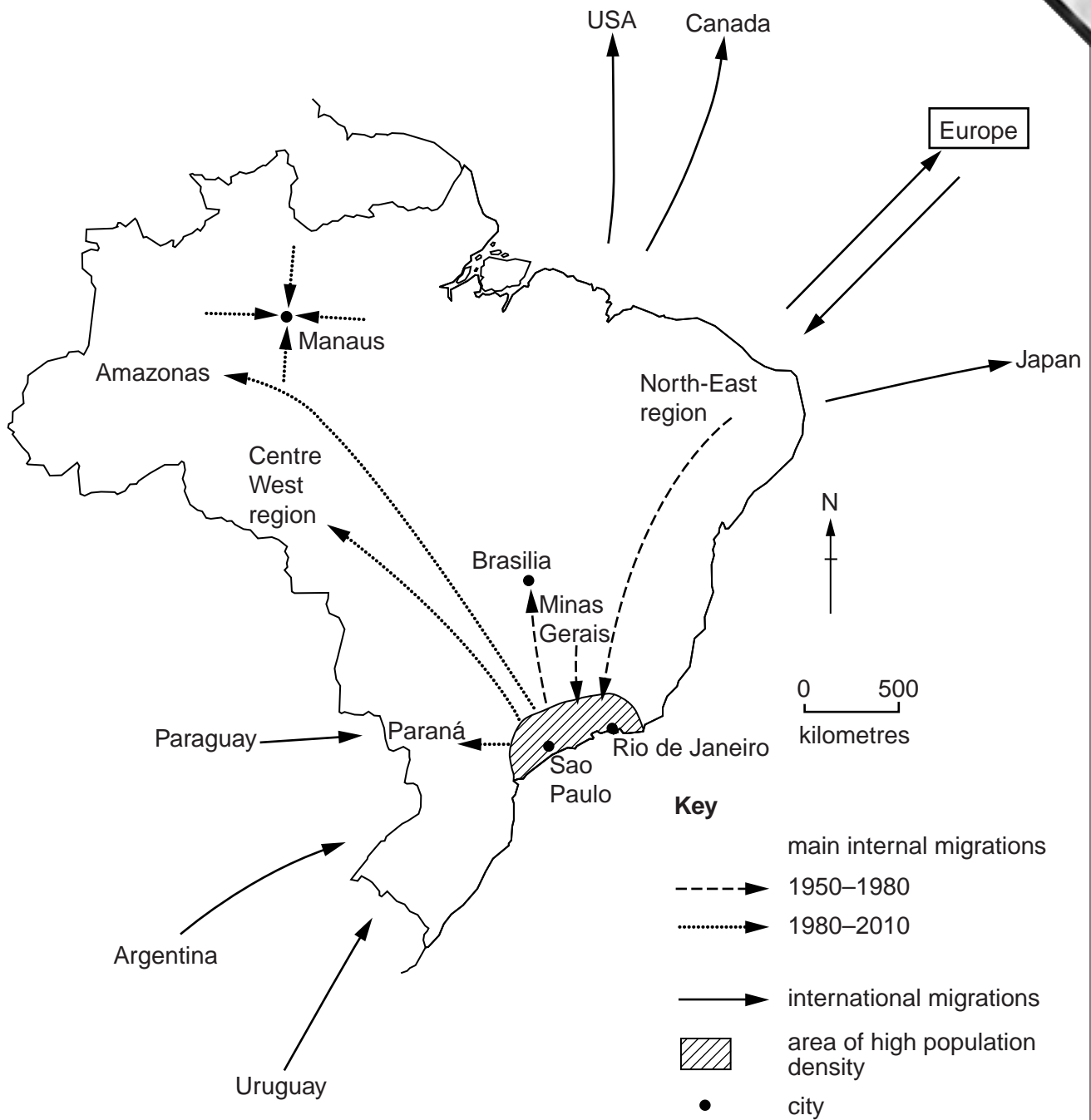
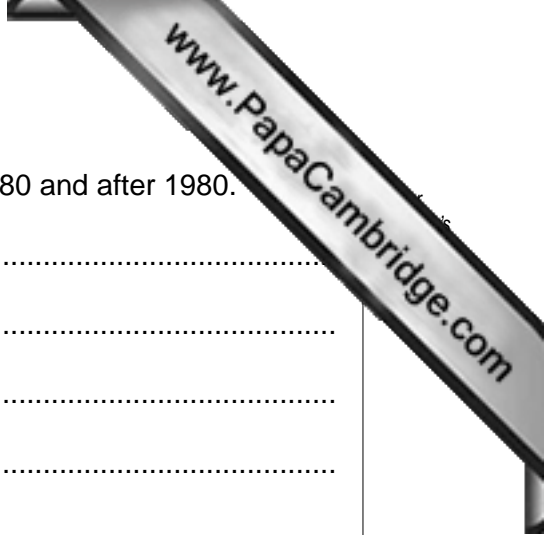


Fig. 4

- (a) (i) Name one country that is a source of immigrants to Brazil.
 [1]
- (ii) Name one country to which Brazilians emigrate.
 [1]
- (b) Use the key to complete Fig. 4, to show internal migration from the North-East region to Brasilia between 1950 and 1980. [2]



(c) Describe the patterns of internal migration in Brazil before 1980 and after 1980.

.....

.....

.....

.....

.....

.....

..... [4]

[Total: 8 marks]

5 Study Fig. 5, which shows the world's top six international tourist destinations in 2008 and 2009.

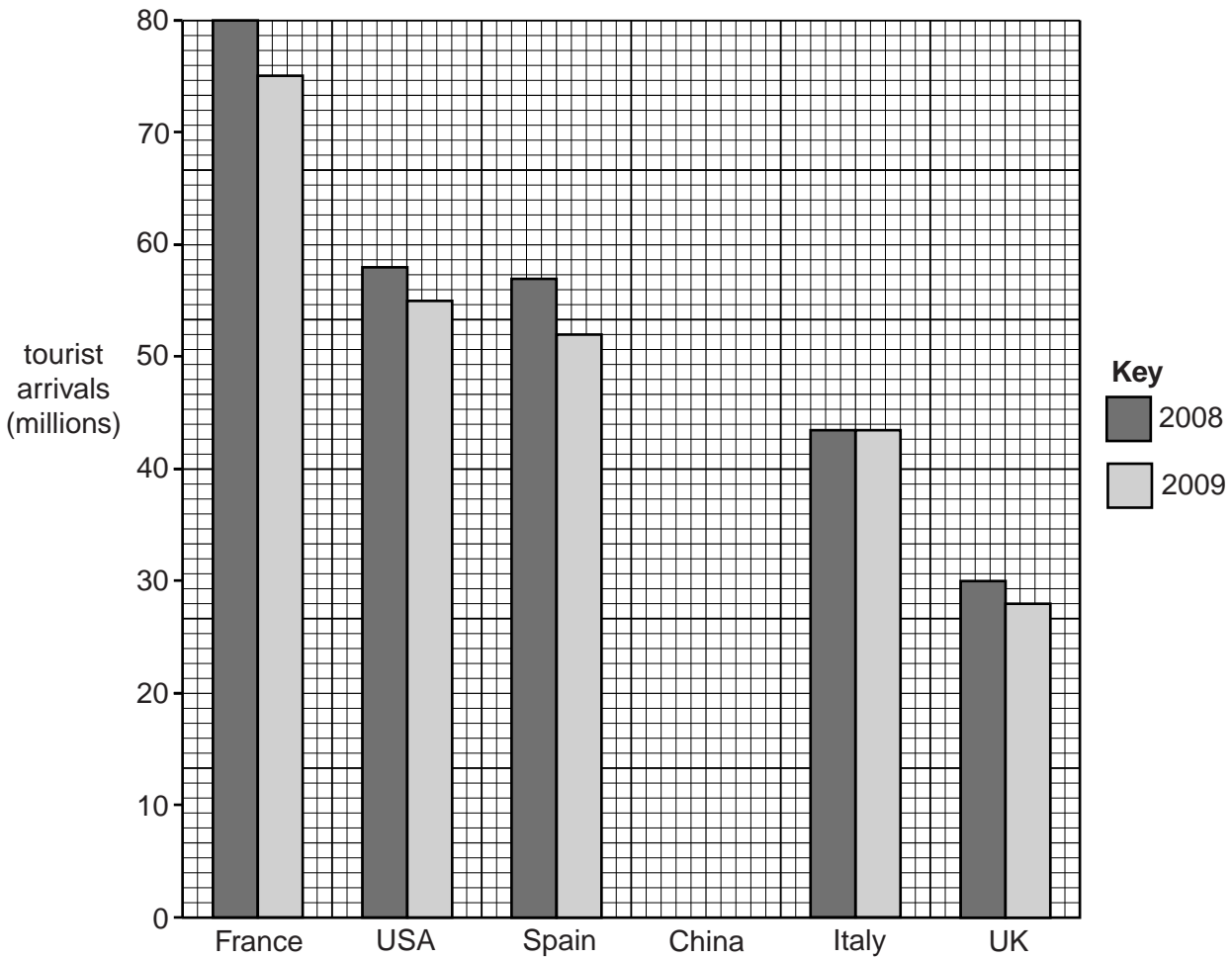


Fig. 5

(a) Complete Fig. 5 to show that China had 54 million tourists in 2008 and 51 million tourists in 2009. [2]

(b) (i) How many tourists visited the UK in 2009?

..... million [1]

(ii) By how much did tourist numbers in the USA decrease from 2008 to 2009?

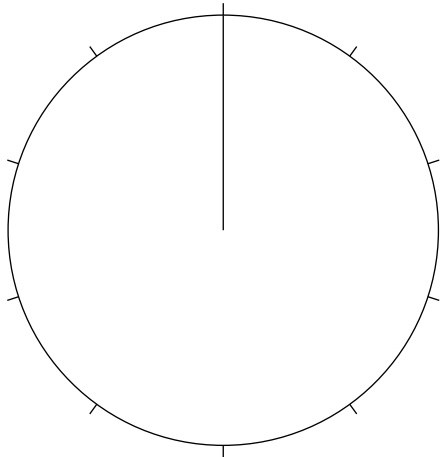
..... million [1]

(c) Describe the overall change in total tourist numbers between 2008 and 2009.

.....

 [2]

- (d) In 2009, 15 million, of the 75 million tourists to France, visited one of France's resorts. Use this information to complete the pie chart in Fig. 6 below.

**Key**



-  tourists to France visiting Disney resorts
-  tourists to France not visiting Disney resorts

Fig. 6

[Total: 8 marks]

6 Study Fig. 7, which shows employment in some newly industrialised countries (NICs).

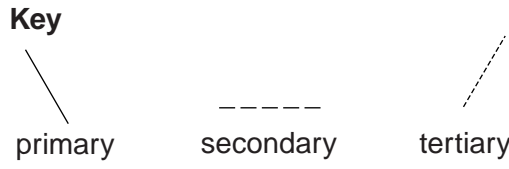
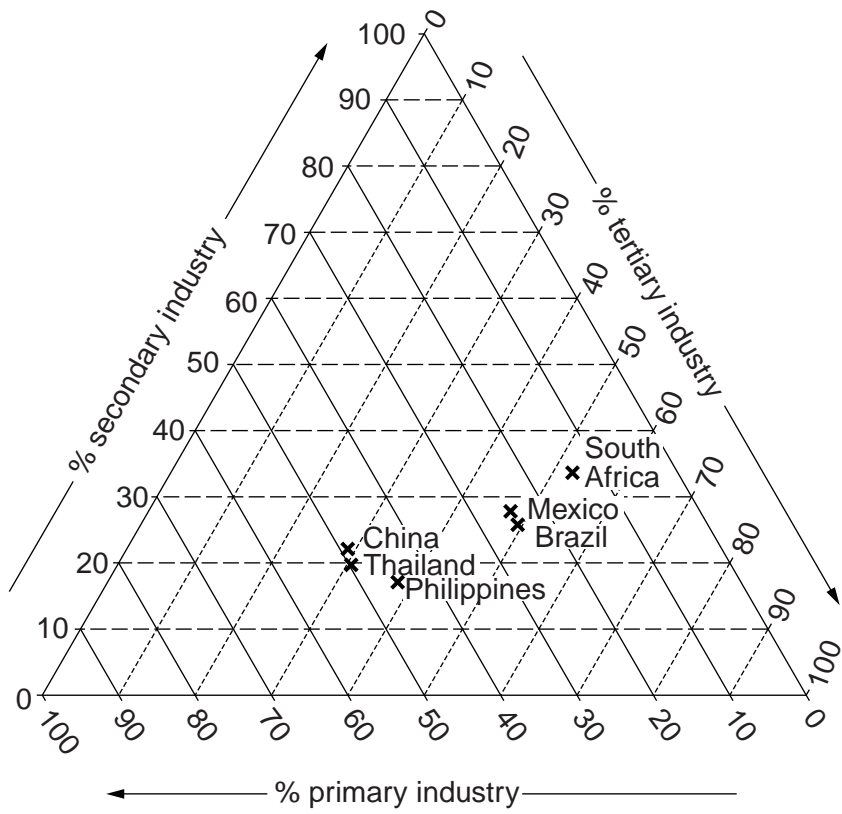


Fig. 7

(a) Complete Fig. 7 to show that Malaysia has 21% primary, 34% secondary and 45% tertiary employment. [2]

(b) Which country has:

- highest primary employment;

.....

- highest tertiary employment?

..... [2]



(c) Describe the way employment structure changes as a country develops.

.....

.....

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.....

..... [4]

[Total: 8 marks]

Section B

Answer **one** question in this section.

- 7 Geography students in two schools in Manama, Bahrain and Jakarta, Indonesia planned a joint fieldwork investigation using email and a video-link between the two schools. They wanted to test if atmospheric pressure varied during the year and if it affected wind speed. The climate in Manama is tropical desert and in Jakarta is tropical rainforest.

They agreed the following hypotheses:

Hypothesis 1: *As atmospheric pressure increases wind speed decreases.*

Hypothesis 2: *Atmospheric pressure is different in January and July in both Manama and Jakarta.*

- (a) Complete the table below to show the characteristics of high and low pressure conditions.
Circle your chosen answers. [3]

	High pressure	Low pressure
Air is	rising / sinking	rising / sinking
Weather conditions change	rapidly / slowly	rapidly / slowly
Expected weather is	wet / dry	wet / dry

- (b) The students in each school used a barometer, shown in Fig. 8 (Insert), to record the atmospheric pressure at 12.00 hours (midday) for a period of 10 days.

- (i) Describe how a barometer is used to measure atmospheric pressure.

.....

 [2]

- (ii) The students checked that their barometer was giving a correct reading before they began their fieldwork. The pressure reading of their test is shown in Fig. 8 (Insert).

What is the atmospheric pressure reading shown in Fig. 8?

..... mb [1]

- (iii) What does 'mb' stand for?

..... [1]

(iv) Why was it important that the students took the pressure reading at 1200 (midday) each day?

.....
 [1]

(v) To measure wind speed the students in Jakarta used an anemometer, shown in Fig. 9 (Insert). Explain how an anemometer is used to measure wind speed.

.....

 [2]

(c) The results of the measurements made in the two schools are shown in Table 1 (Insert).

(i) Use the results in Table 1 to plot the atmospheric pressure and wind speed recorded on 13th and 19th January in Manama on the scatter graph, Fig. 10 below. [2]

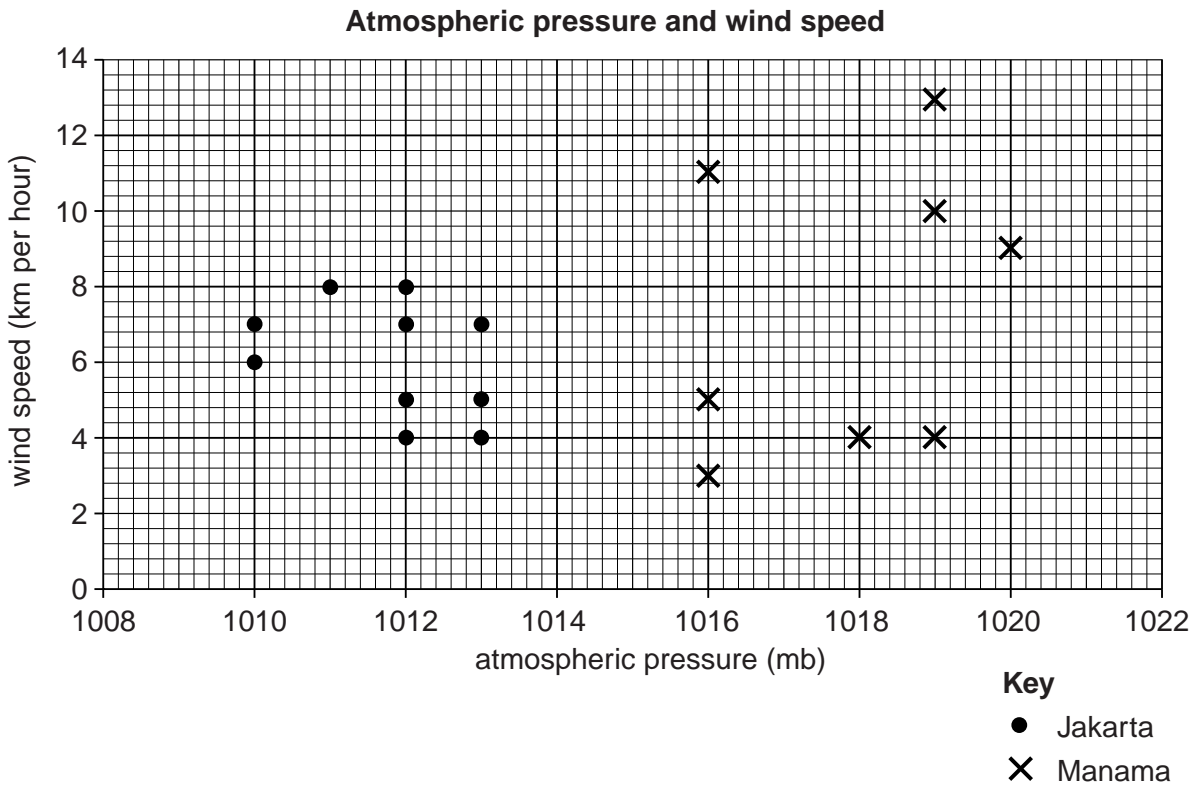


Fig. 10

(ii) Use information from Table 2 (Insert) to plot the atmospheric pressure record for Manama on July 18th and January 18th in Fig. 11 below.

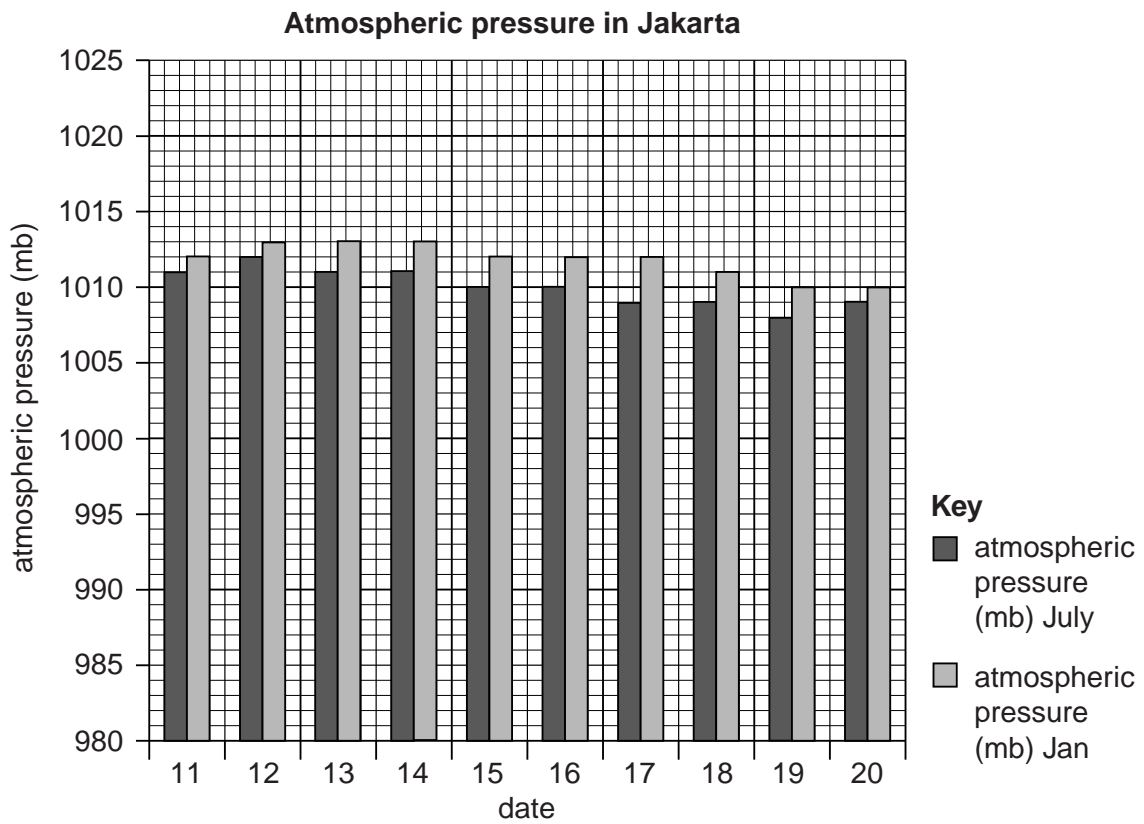
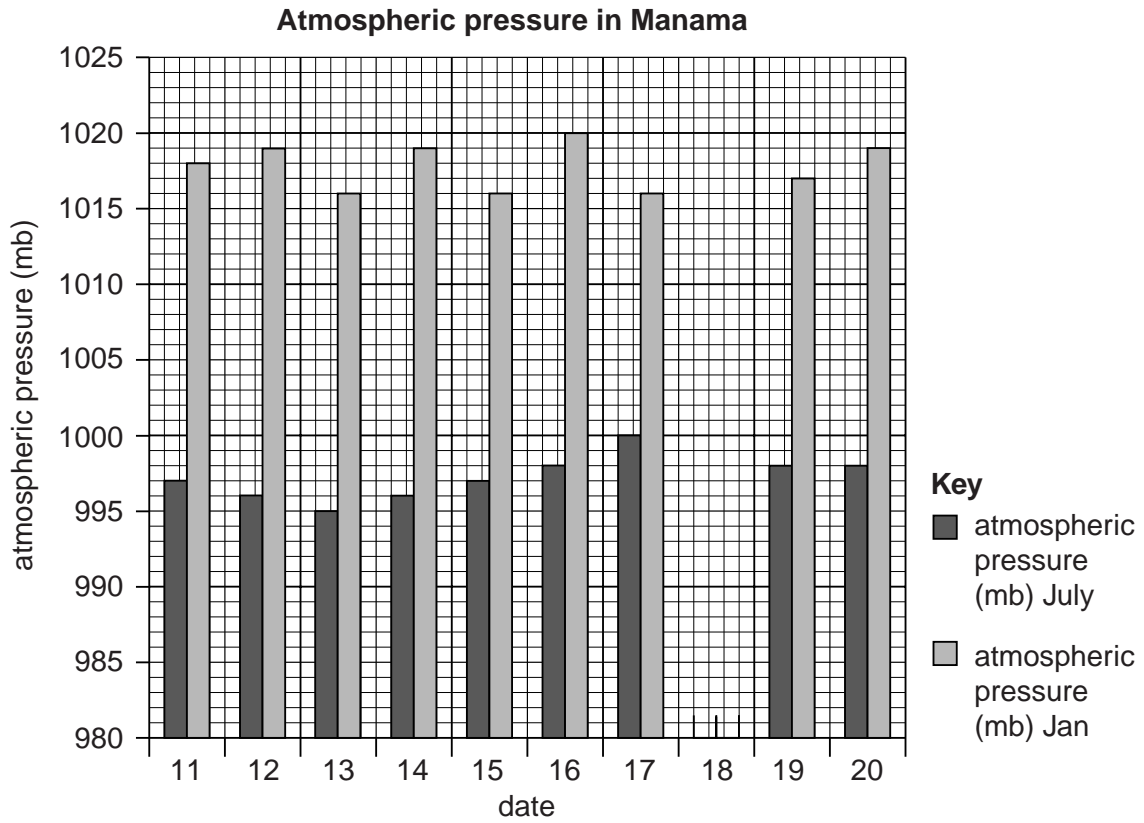
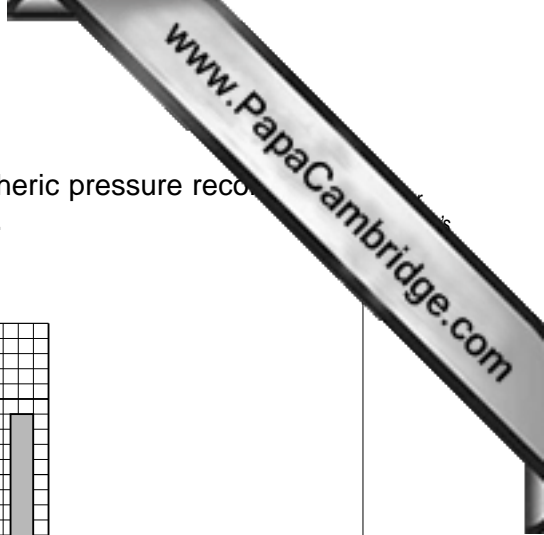


Fig. 11





(iii) Do the results shown in Fig. 11 support **Hypothesis 2**: *Atmospheric pressure is different in January and July in both Manama and Jakarta*? Use data to support your conclusion.

.....
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.....
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.....
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.....
.....

[4]

(e) Suggest **two** weaknesses of the fieldwork investigation carried out by the students.

1

.....

2

.....

[2]

(f) The students in one school decided to extend their fieldwork with an investigation into **temperature**. How could they do this?

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

[4]

[Total: 30 marks]

8 Students from a town in southern Malawi wanted to do an investigation of the Business District (CBD) of their town. The town had a commercial centre which was unlike the CBD of a city in an MEDC. There were no high-rise buildings and few large shops. Most shops sold low order goods which people bought frequently.

The students decided on the following hypotheses:

Hypothesis 1: *The commercial centre of the town is near to the market.*

Hypothesis 2: *Pedestrian flows are highest in the commercial centre but vehicle flows are lowest there.*

(a) To investigate **Hypothesis 1** the students produced a land use map of the central area of the town. This is shown in Fig. 12 (Insert).

(i) Use the key to identify the land use of buildings 1 and 2 on Fig. 12.

Building 1

Building 2 [2]

(ii) The students classified the shops and services into groups, as shown in the key.

Suggest **two** reasons why they did this.

1
.....

2
..... [2]

(iii) Describe the location of the wholesale shops and general stores shown in Fig. 12.

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

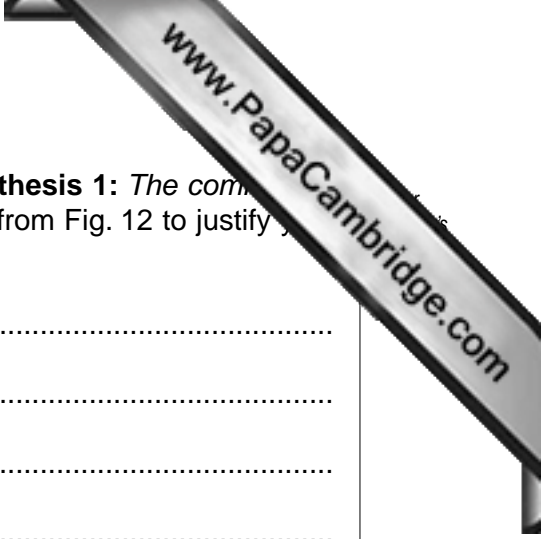
(iv) Describe the location of the supermarkets.

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

(v) Suggest **two** reasons why the wholesale shops and general stores are in different locations from the supermarkets.

1
.....

2
..... [2]



(vi) Does the students' land use map, Fig. 12 support **Hypothesis 1**: *The commercial centre of the town is near to the market*? Use evidence from Fig. 12 to justify your conclusion.

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

(b) To investigate **Hypothesis 2**: *Pedestrian flows are highest in the commercial centre but vehicle flows are lowest there*, the students worked in pairs to do a pedestrian and vehicle survey at different locations in the town centre.

(i) They decided to do the survey between 09.30 and 09.40 on two working days. Give **three** advantages of their decision.

1
.....
2
.....
3
.....[3]

- (ii) Study Fig. 13, which shows an example of a survey sheet which students used near the clinic. They counted 18 bicycles and mopeds during their survey. Use the information to complete Fig. 13, below.

Survey sheet

Location: Clinic Time: 09.30 - 09.40		Day: Wednesday
Pedestrians	Vehicles – Bicycles and mopeds	Vehicles – Cars, vans and lorries
### ### ### ### ### ### ### ### ### ### ### ### ### ### ### ### ### ###		### ### //
90		12

Fig. 13

- (c) The results of the survey carried out in the different locations are shown in Fig. 14 below and Fig. 15 on page 22.

Number of pedestrians recorded in 10 minutes

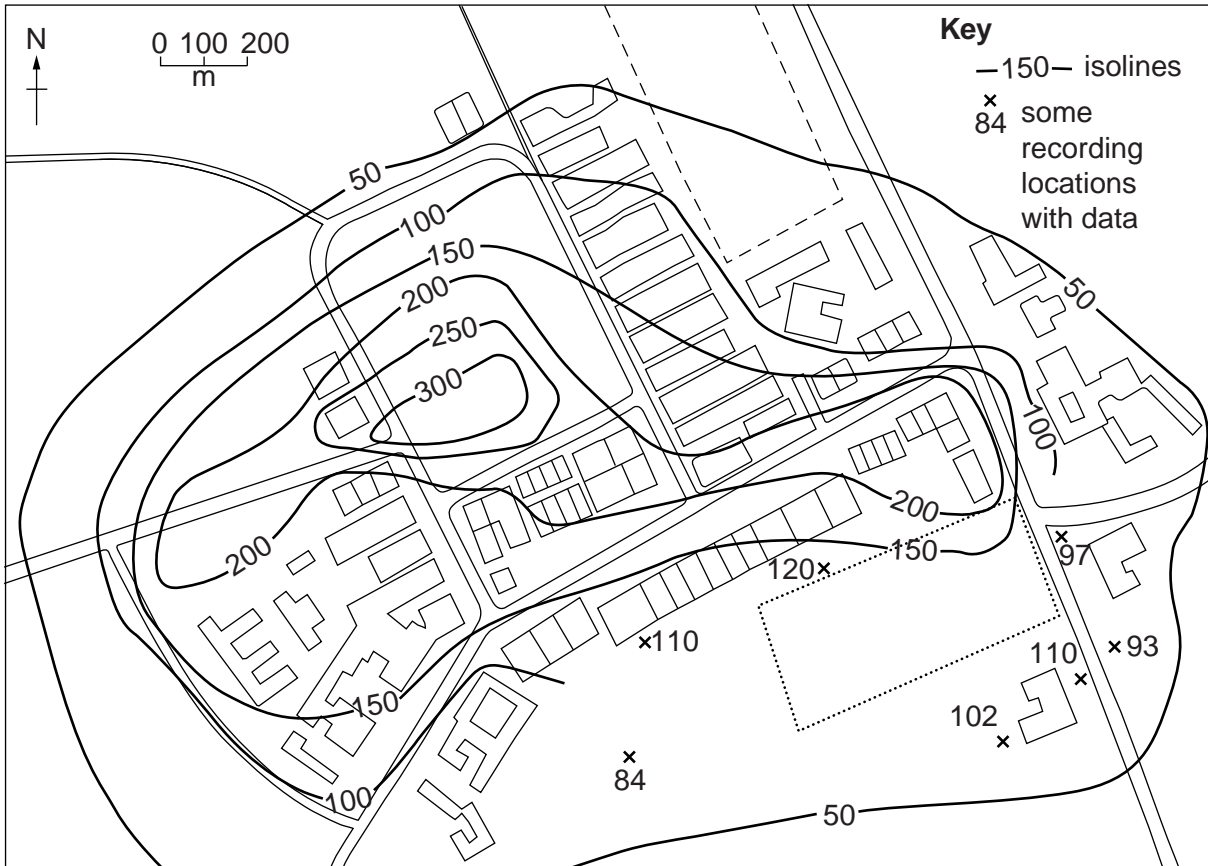


Fig. 14

Number of vehicles recorded in 10 minutes
 (vehicles include bicycles, mopeds, cars, vans, lorries)

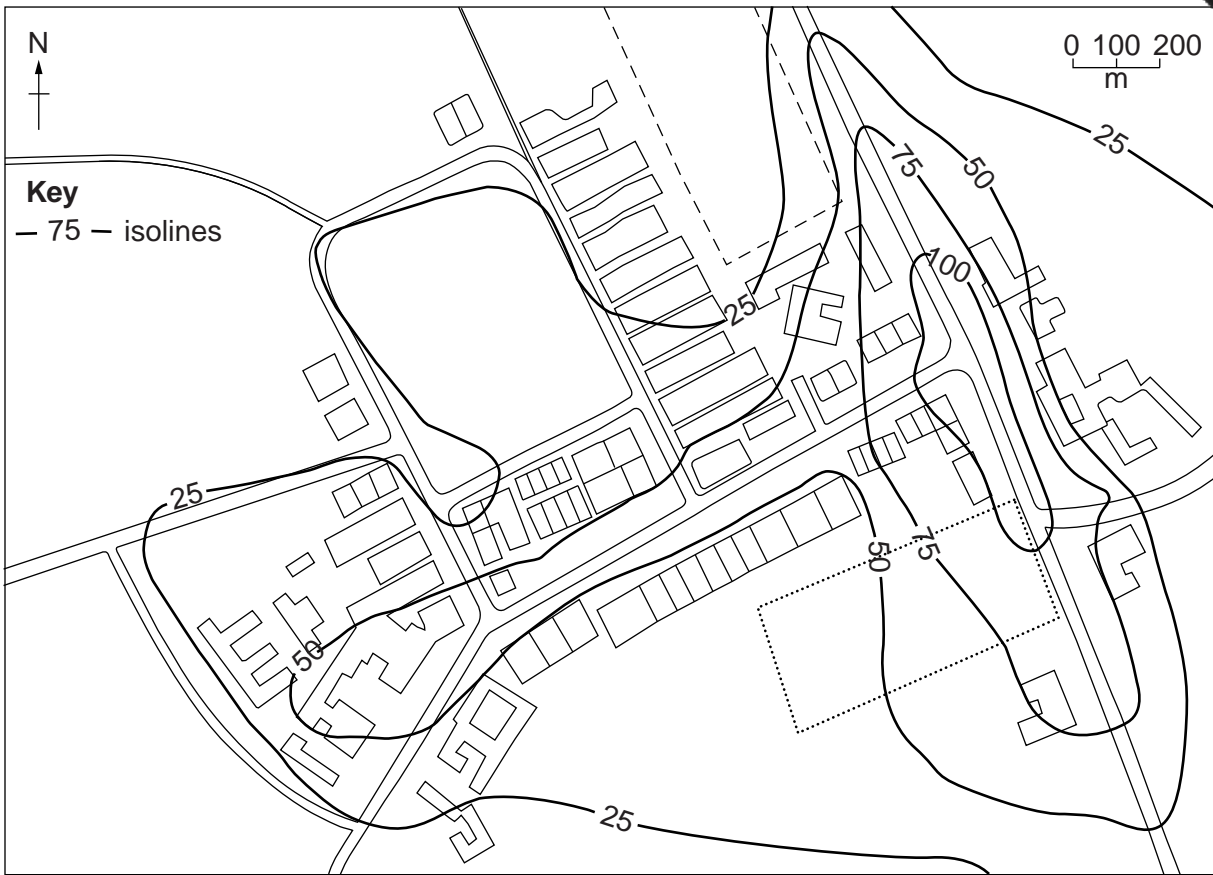


Fig. 15

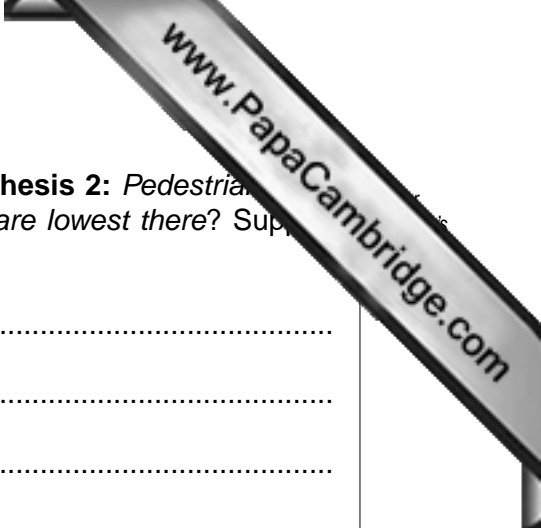
- (i) On Fig. 14, complete the isoline which shows 100 pedestrians. [2]
- (ii) On Fig. 15, shade in the area where more than 100 vehicles were recorded. [1]
- (iii) Some students drew separate maps to show the results of bicycles and mopeds on one map and other vehicles (cars, vans and lorries) on a different map. Why might this be more useful?

.....

.....

.....

..... [2]



(iv) What conclusion would the students make about **Hypothesis 2: Pedestrian flows are highest in the commercial centre but vehicle flows are lowest there?** Support your answer with evidence from Figs 14 and 15.

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

(v) Suggest **three** reasons for the different patterns of pedestrian and vehicle flows shown in Figs 14 and 15.

1
.....
2
.....
3
..... [3]

(d) How might the fieldwork investigation have been improved?

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

[Total: 30 marks]

Copyright Acknowledgements:

Question 2 Fig. 2 © ADAPTED; http://www.ceh.ac.uk/data/nrfa/nhmp/hs/pdf/HS_201006.pdf.
Question 3 Photograph A © S Bird © UCLES.

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