

Centre Number	Candidate Number	Name
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UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

GEOGRAPHY **0460/04**

Paper 4 Alternative to Coursework May/June 2006

1 hour 30 minutes

Additional Materials: Ruler
Calculator

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.

Answer **all** questions.
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	
Q1	
Q2	
Total	

1 Students investigated two shops in a city. The simple hypothesis for this coursework was

'shop B is larger, busier and more important than shop A'.

The students visited both shops and interviewed the managers, counted customers, measured the fronts of the shops and studied the car parking areas. Table 1 shows their results.

Table 1

Data collection method	Shop A	Shop B
Interview with the manager to gain information about the shop	½ km from city centre	2½ km from city centre
	located on busy main road	located at the junction of several main roads
	employs 3 staff	employs 220 staff
	owned by manager	owned by international company
Observations from a walk around inside of shop	selling mainly convenience items	selling convenience and comparison items
Measurement of frontage of shop	12 paces	128 paces
Customer count for 10 minutes at 12.00 hours	64 people (at only door)	213 people (at main door)

(a) (i) What is a 'convenience item'?

.....

Give one example of a 'convenience item'.

.....[2]

(ii) When deciding where to locate a shop, the owner needs to consider the cost of the land and the accessibility of the site by road. Complete Fig. 1 by describing how these change as distance from a city centre increases. Give a reason for each change.

Cost of land change: description and reason
Accessibility by road change: description and reason

[4]

Fig. 1

0460/04/M/J/06

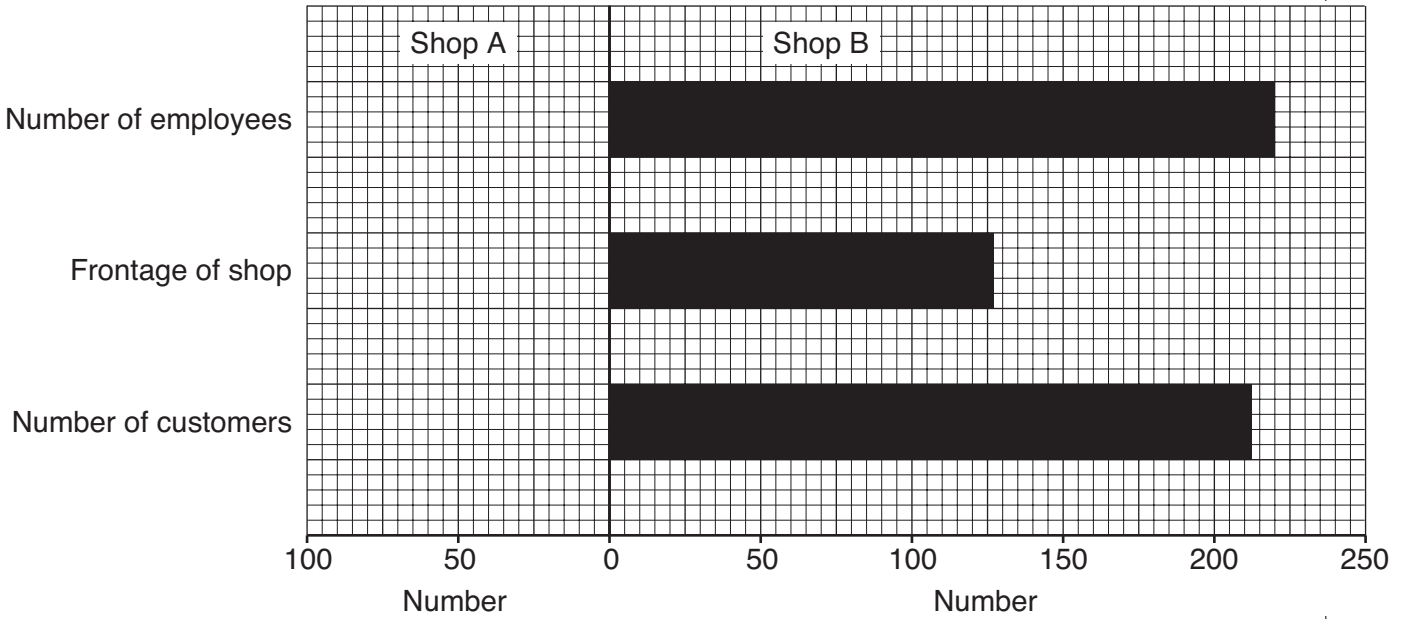


Fig. 2

(b) (i) Plot the data from Table 1 for shop A onto Fig. 2 to show the differences between shop A and shop B. [3]

(ii) Briefly describe the pattern shown by the graph Fig. 2.

.....

 [2]

(c) The students paced the front of each shop to assess the size of the shop. Suggest an advantage and a disadvantage of this method of measurement.

Advantage:.....

 Disadvantage:.....
 [2]

Table 2

	Shop A	Shop B
Car park size	6 vehicle spaces	500 vehicle spaces
Number of vehicles in the car park at 12.00 hours	5	175

(d) (i) Study Table 2. Suggest what the car park size shows about the transport methods of shoppers to shop B.

.....
 [1]

(ii) Using the data in Table 2, calculate the percentage of the car park used at shop B.

Percentage use = [1]

(iii) Complete Fig. 3 by plotting the percentage use for shop B using the key. [2]

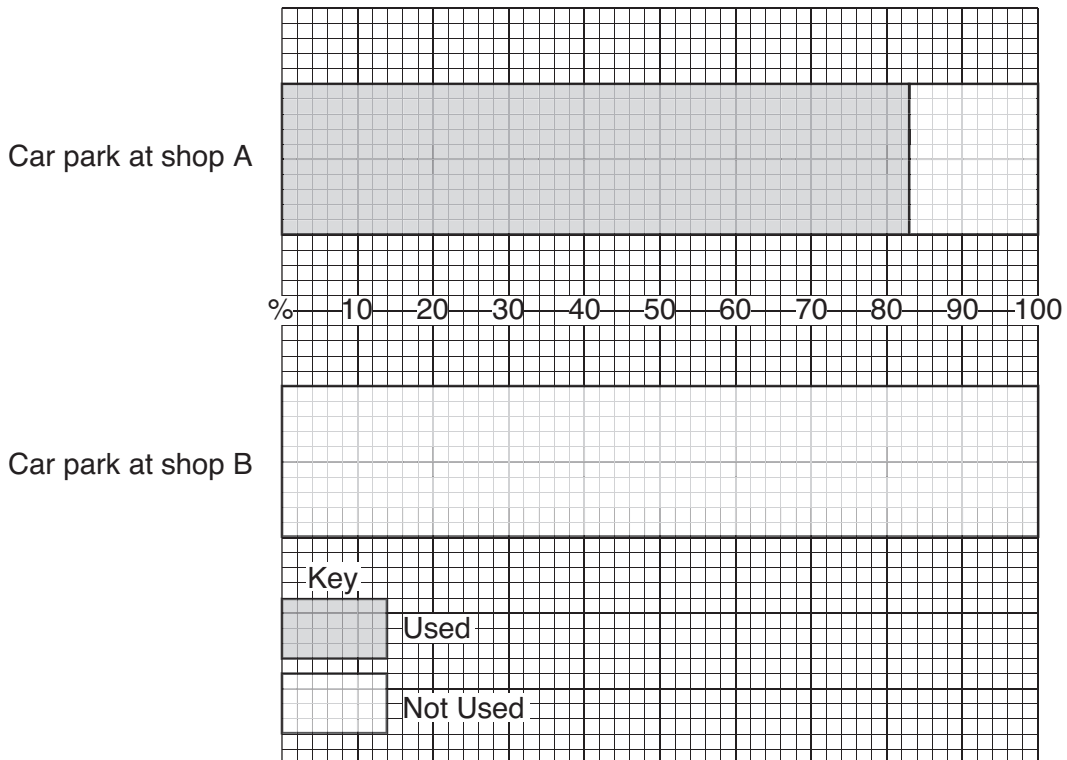


Fig. 3

(e) The teacher suggested that the cost of items in shop B was cheaper than in shop A.

(i) Students are going to investigate the difference in price of five items sold at both shop A and shop B. Write a set of instructions for the students to follow. Use the space on Fig. 4. [2]

(ii) Design one recording sheet to record the price of the same five items at both shop A and shop B. Use the space on Fig. 4. [4]

Differences in price of five items at shop A and shop B	
Instructions to students	
Recording Sheet	

Fig. 4

- (f) The sphere of influence may show the importance of a shop. The sphere of influence is the area around a shop where the people live who are served by the shop.

Describe the expected differences between the sphere of influence of shop A and shop B. Give detailed reasons for these differences by using information from Table 1 or Table 2.

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.....[3]

- (g) Write a conclusion to this investigation. You should comment on the hypothesis 'shop B is larger, busier and more important than shop A'. You must state data from this investigation to support your views.

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.....[4]

Total 30 marks

- 2 For eight days in January, students measured atmospheric pressure and wind speed at their school (school X) which is located in the northern hemisphere at 25°N. The climate at school X is described as a desert climate. Further data was collected from school Y in a different climatic area. The hypothesis used in the investigation was

'as atmospheric pressure increases the wind speed decreases'.

- (a) Write the descriptions from Table 3 into Table 4 to show the characteristics of high and low atmospheric pressure. [3]

Table 3

Characteristics
Sinking air
Rising air
Stable unchanging conditions
Unstable and changeable conditions
Expected dry weather
Expected wet weather

Table 4

High pressure	Low pressure

- (b) (i) The students used a barometer and recorded the atmospheric pressure at 08.00 hours each day. The results are shown on Table 5 below. Why were the measurements taken at the same time each day?

.....
 [1]

- (ii) Read the barometer for 7th January at school X on Fig. 5 and fill in the pressure reading on Table 5. Use this reading to complete the line graph for School X on Fig. 6.

- (iii) Explain how and why the index pointer on the barometer is used.

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 [2]

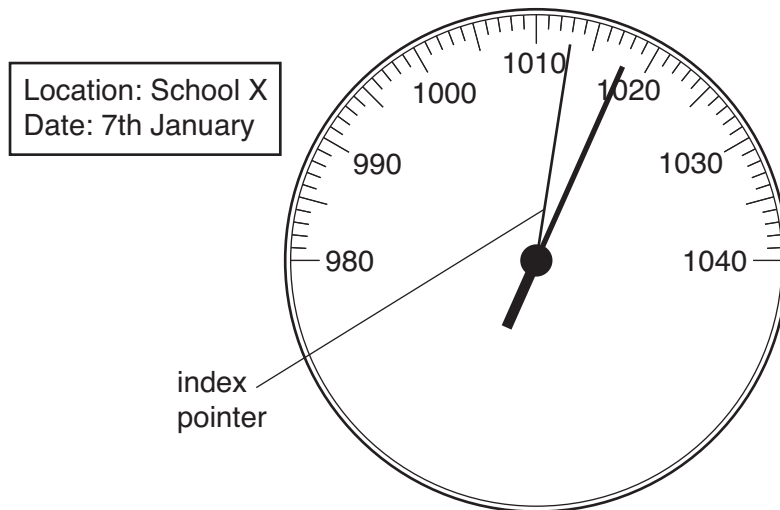


Fig. 5

Table 5

		7th Jan	8th Jan	9th Jan	10th Jan	11th Jan	12th Jan	13th Jan	14th Jan
Atmospheric pressure (Mb)	School X		1019	1016	1019	1016	1020	1016	1016
	School Y	1012	1013	1013	1013	1012	1012	1012	1011
Wind Speed (km/hr)	School X	4	4	12	13	11	9	5	3
	School Y	4	7	4	5	8	5	7	8

For information:

Light Wind = 6–12 km/hr Strong Breeze = 41–50 km/hr Gale Force = 75–89km/hr

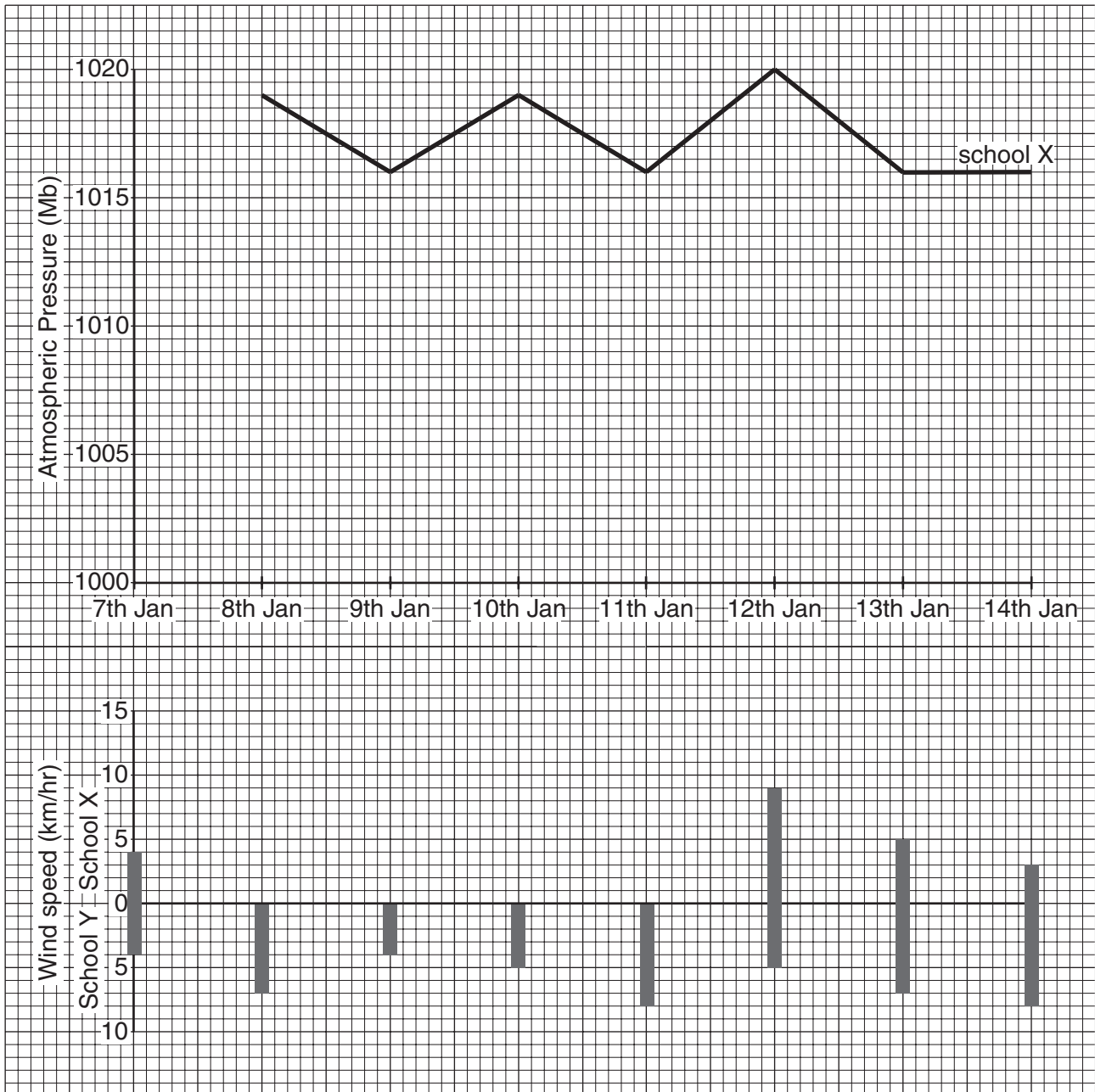


Fig. 6

(c) Study Fig. 6 showing the atmospheric pressure changes during the eight days at school X. Describe the pattern of change.

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..... [2]

(d) (i) Wind speed was also measured by the students at 08.00 hours using a hand held digital anemometer. What are the advantages and disadvantages of using this instrument?

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.....[2]

(ii) Use Table 5 to complete the wind speed bars for school X on Fig. 6 from 8th January to 11th January. [2]

(e) The teacher at school X suggested that the pressure readings did not show enough change to investigate the hypothesis. School Y was contacted via the internet and atmospheric pressure and wind speed data for the same eight days was exchanged. The results are shown in Table 5. School Y is located at 2°N and is in an area of tropical rainforest climate.

Outline how a tropical rainforest climate is different from a desert climate. Give reasons for your answer.

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.....[3]

(f) (i) Plot the atmospheric pressure data for school Y as a line graph on Fig. 6. [4]

(ii) Compare the atmospheric pressure during the eight days at school X and school Y. Suggest reasons why the atmospheric pressure is different at the two schools in January. [4]

Comparison between school X and school Y

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Reasons

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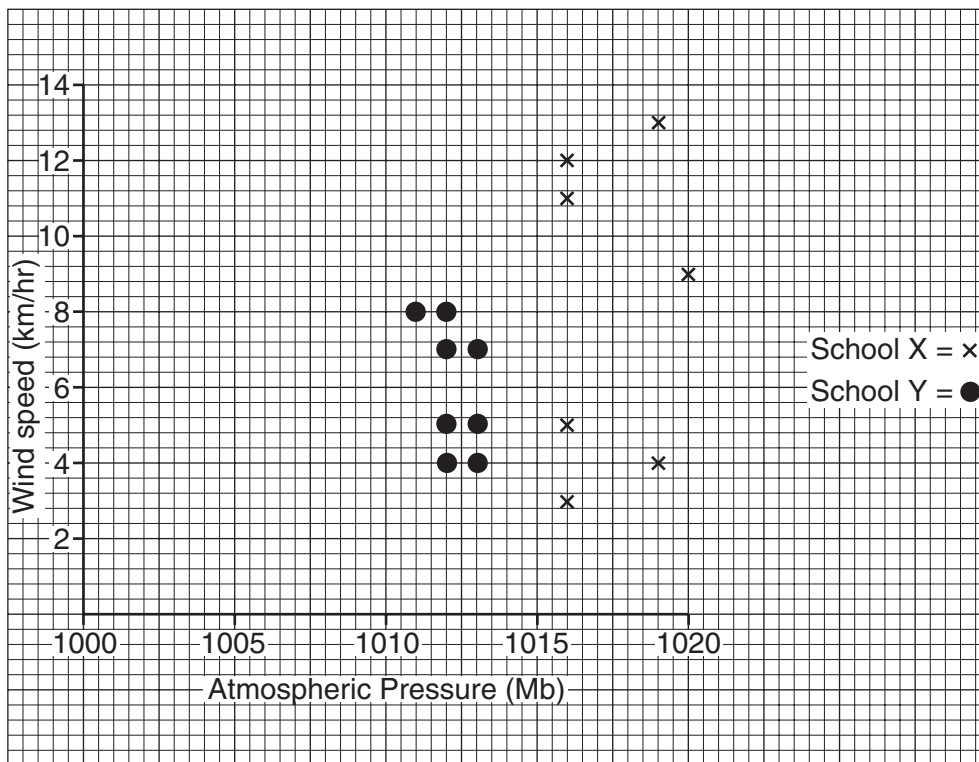


Fig. 7

(g) The students plotted both the atmospheric pressure and the wind speed results at school X and school Y on a scatter graph (Fig. 7).
Using Table 5, Fig. 6 and Fig. 7, write a conclusion to this investigation. You should comment on

- the hypothesis
- data to support your decision
- the reliability of data collection methods.

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[6]

Total 30 marks

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