UNIVERSITY OF CAMBRIDGE INTERNATIONAL EX
International General Certificate of Secondary Educati

CANDIDATE NAME

CENTRE NUMBER | | | | | |

CAN NUMBER

8670359227

GEOGRAPHY **0460/21**

Paper 2 **May/June 2013**

1 hour 30 minutes

Candidates answer on the Question Paper.

Additional Materials: Ruler
Protractor
Plain paper
Calculator

1:25 000 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 ON ANY BARCODES.

Answer **all** questions.

The Insert contains Photographs A, B and C for Question 3.
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	
Q1	
Q2	
Q3	
Q4	
Q5	
Q6	
Total	

This document consists of **15** printed pages, **1** blank page and **1** Insert.

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UNIVERSITY of CAMBRIDGE International Examinations

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1 Study the map extract for Petite Rivière, Mauritius. The scale is 1:

(a) Fig. 1 shows some of the features in the south east part of th
and the map extract, and answer the questions below.

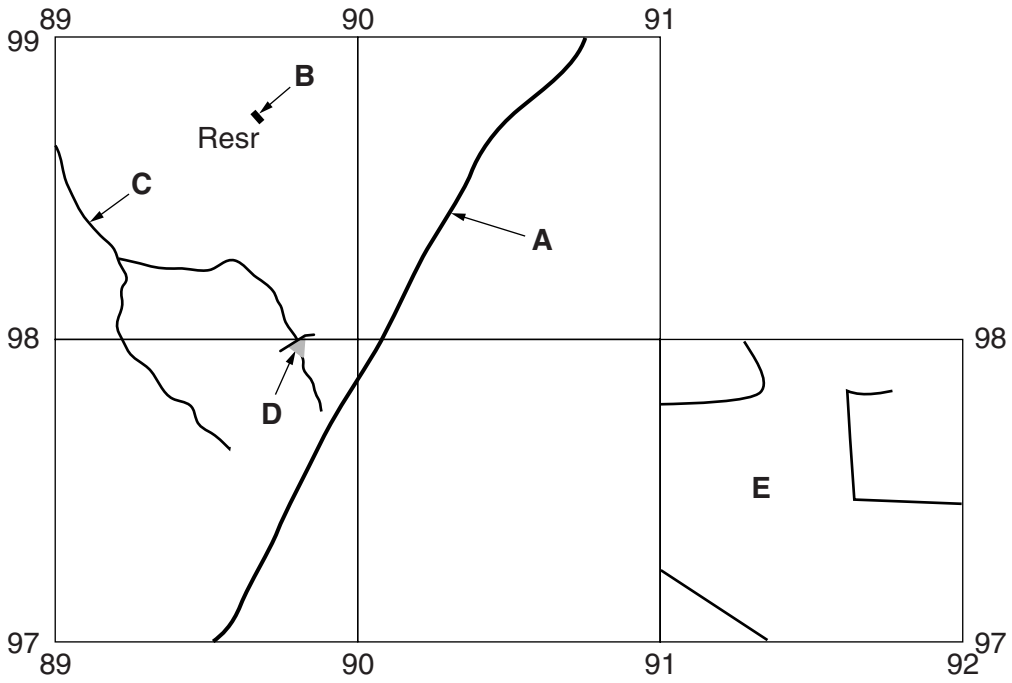


Fig. 1

Using the map extract, identify the following features shown on Fig. 1:

(i) the type of road at **A**;

.....[1]

(ii) feature **B**;

.....[1]

(iii) the name of river **C**;

.....[1]

(iv) feature **D**;

.....[1]

(v) the land use at **E**;

.....[1]

(vi) feature **F**.

.....[1]

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(b) Fig. 2 shows the location of two grid squares in the north of t
grid squares 9002 at Petit Verger and 9100 at Petite Rivière.
and answer the question below.

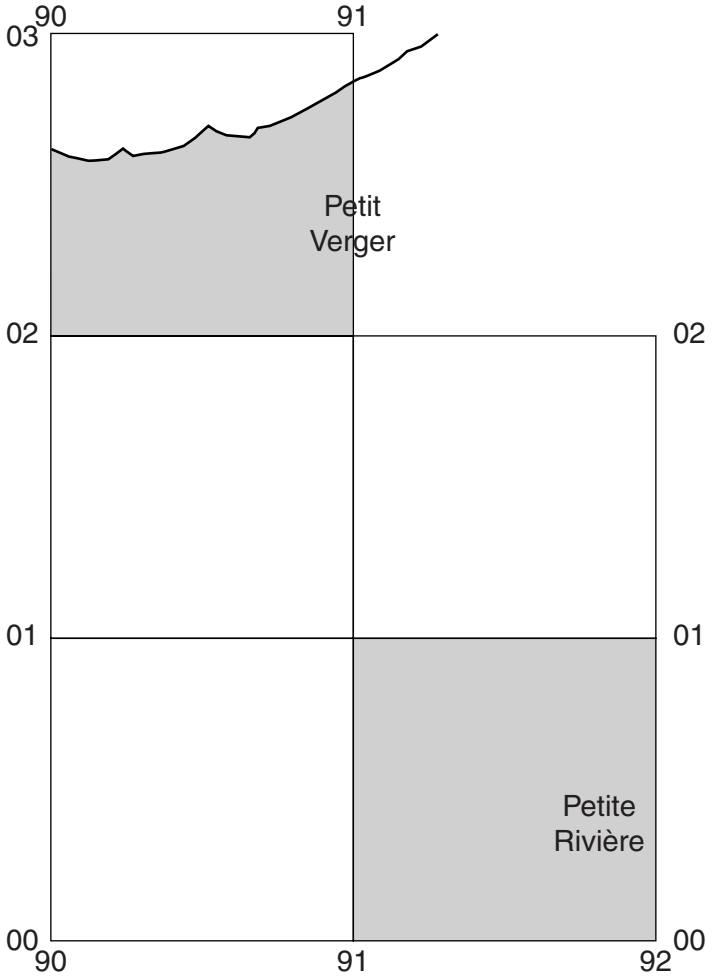


Fig. 2

The table below compares the features of the two grid squares. Complete the table by putting ticks in the correct **five** boxes. Use only **one** tick for each row.

	Petit Verger (9002)	Petite Rivière (9100)	Both these areas	Neither of these areas
Example: sugar plantation			✓	
a temple				
scattered trees or scrub				
linear settlement				
nucleated settlement				
land over 50 metres above sea level				

[5]

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(c) Fig. 3 is a cross section along northing 99 from the coast at 8



Fig. 3

On Fig. 3, using labelled arrows, mark the positions of:

(i) the Belle Eau river; [1]

(ii) the B78 Albion Road; [1]

(iii) the Feeder des Cocos river. [1]

(d) Look at the straight Simonet Road between Camp Créole Belle Eau (882989) and the road junction at Canot (896973).

(i) Measure the distance along this part of the road. Give your answer in metres.

..... metres [1]

(ii) What is the compass direction along the road from Camp Créole Belle Eau to Canot?

.....[1]

(iii) Look at the heights above sea level of the two places. How much lower is Camp Créole Belle Eau than Canot? Tick **one** answer below.

	Tick (✓)
20 m	
40 m	
80 m	
120 m	

[1]

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(e) Suggest advantages and disadvantages that the area has tourist industry. In each case, state map evidence.

Advantages .....

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Disadvantages .....

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..... [3]

[Total: 20 marks]

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2 Table 1 shows the weather for Buenos Aires, Argentina, for four d

Table 1

Day	Maximum temperature (°C)	Minimum temperature (°C)	Wind direction	Wind speed (km/hr)		
Wed 18th	20	13	SW	9		
Thur 19th	21	15	S	12		
Fri 20th	18	16	SE	9	88	8
Sat 21st	19	16	SW	8	73	8

(a) Name the weather instruments used to measure the following:

(i) wind direction; .....[1]

(ii) wind speed; .....[1]

(iii) humidity. .....[1]

(b) (i) On which of the four days was the daily (diurnal) temperature range largest?

.....[1]

(ii) Describe the relationship between maximum temperatures and cloud cover shown in Table 1.

.....

.....

.....

.....

.....[2]

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(c) Rainfall data is not shown in Table 1. Rainfall data can be coll
shown in Fig. 4 below.

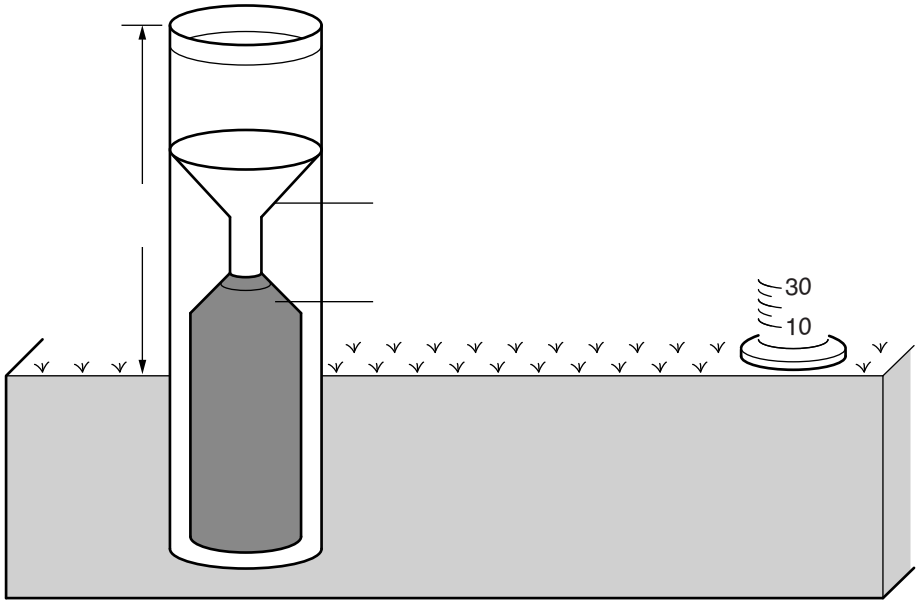


Fig. 4

Explain how the design of the instrument shown in Fig. 4 stops the following errors occurring:

(i) raindrops splashing into the instrument making the readings too high;

.....

.....

.....[1]

(ii) water evaporating in the instrument making the readings too low.

.....

.....

.....[1]

[Total: 8 marks]

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3 Photographs A, B and C (Insert) show the agriculture of three area
For each of A, B and C, describe the features of the agriculture se

Photograph A

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Photograph B

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Photograph C

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..... [8]

[Total: 8 marks]

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4 **(a)** Fig. 5 is a map showing the intensity (strength) of a weak
April 2007. Table 2 shows the effects of earthquakes of differ

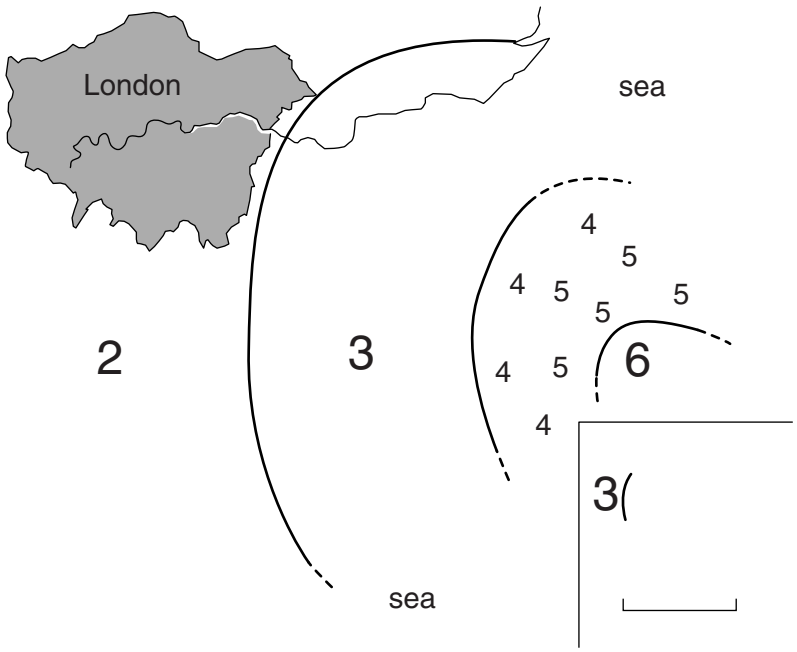


Fig. 5

Table 2

Intensity value	Description of effects
1	Not normally felt. Birds and animals uneasy
2	Felt only by a few people at rest
3	Vibrations like a large truck passing. Felt by most people at rest
4	Felt by people moving. Cars rock
5	Sleepers wakened. Some windows broken. Furniture moves
6	Small bells ring. Trees sway. Loose objects fall
7	Difficult to stand up. People run outdoors. Walls crack
8	Partial collapse of buildings. Chimneys fall

(i) On Fig. 5, label the likely position of the epicentre of the earthquake with the letter **E**. [1]

(ii) On Fig. 5, draw a line to show the boundary between the area of intensity 4 and the area of intensity 5. [1]

(iii) State **one** likely effect of the earthquake in London.

.....

.....[1]

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(b) Earthquakes stronger than the one in England in 2007 can 11 and 12. Their effects are described below but the table i Complete the table by adding the intensity values. Use **one** n each row.

Description of effects	
Bridges destroyed. Many buildings destroyed	
Total destruction. Ground surface rises and falls in waves	
Ground cracks. Buildings move slightly. Pipes break	
Landslides. Some buildings destroyed	

[2]

(c) **(i)** Which **one** of the following will increase the damage caused by an earthquake? Tick **one** box below.

	Tick **(✓)**
The focus of the earthquake is deep beneath the surface	
The earthquake releases a small amount of energy	
Buildings are on hard rock like granite	
Buildings are on sand and clay	

[1]

(ii) Which **one** of the following will increase the number of deaths caused by an earthquake? Tick **one** box below.

	Tick **(✓)**
Population density is low	
Buildings have been designed to withstand earthquakes	
Schools have regular earthquake drills	
The country has had few previous earthquakes to learn from	

[1]

(iii) One possible effect of an earthquake is a tsunami. Which **one** of the following best describes a tsunami? Tick **one** box below.

	Tick **(✓)**
A tsunami is a giant ocean wave which is caused by tides	
A tsunami gets smaller as it travels into shallower water	
A tsunami can take hours to travel across an ocean and it is possible to provide warnings	
A tsunami does not affect lowlands next to the coast	

[1]

[Total: 8 marks]

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5 Fig. 6 compares the production of nuclear energy in Asia production.

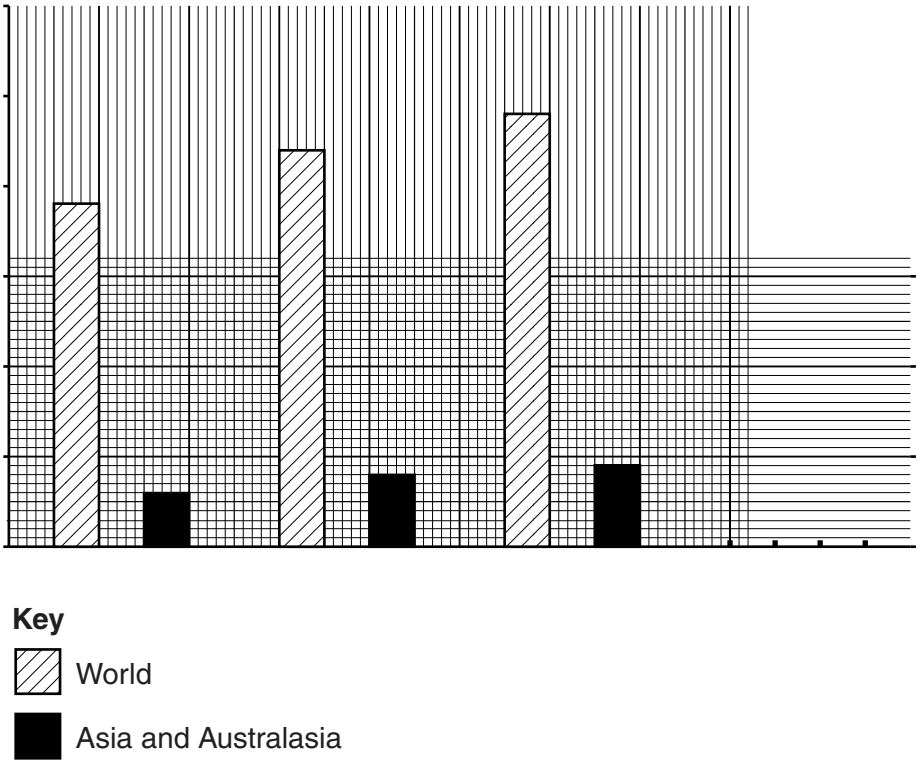


Fig. 6

(a) In 2007, the world produced 2600 billion kilowatt hours of nuclear energy and Asia and Australasia produced 500 billion kilowatt hours. Plot this information on Fig. 6. [2]

(b) Fig. 7 shows the production of nuclear energy in some countries in Asia and Australasia.

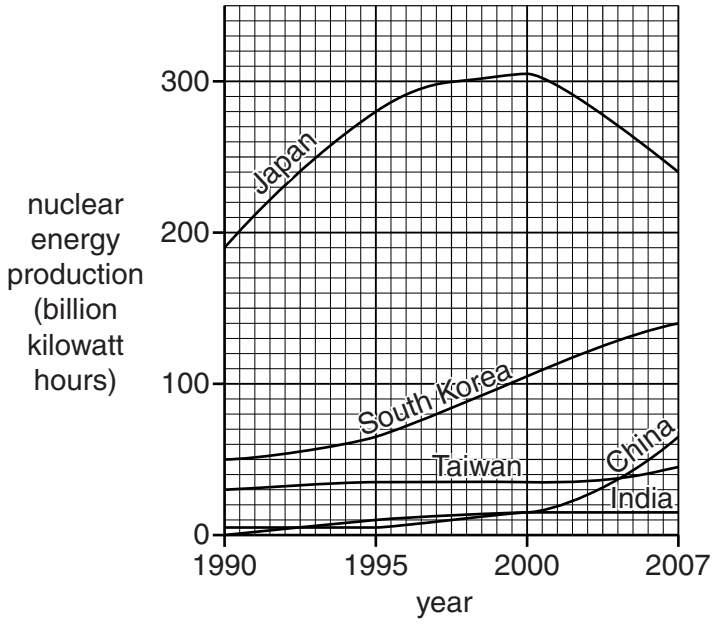


Fig. 7

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Which country:

(i) decreased its production of nuclear energy between 200

(ii) produced least since 1995; .....

(iii) had the greatest increase in production between 2000 a

.....

(c) Nuclear power is a controversial topic. Fig. 8 describes some

Nuclear power stations

The radioactive waste from nuclear power stations remains a health hazard for hundreds of thousands of years, requires careful storage and is difficult to dispose of safely. The raw material used is uranium ore. This will not run out for hundreds or even thousands of years and it does not produce carbon dioxide or acid rain.

The cost of building nuclear power stations and shutting down old ones is very high. Very small amounts of uranium are needed to produce large amounts of energy.

There have been serious incidents at nuclear power stations, leading to leaks of radioactivity. Radioactivity is a known cause of serious diseases. The Sendai earthquake in Japan in March 2011 caused an explosion and leakage of radioactive material at the Fukushima nuclear plant. This raised questions about the safety of nuclear plants in earthquake zones. However, the safety record of nuclear power stations has improved and the industry is highly regulated in most countries.

Nuclear power stations produce material which can be used as the raw material for nuclear weapons.

Fig. 8

Using information from Fig. 8 **only**, explain why a country might choose to develop nuclear power.

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..... [3]

[Total: 8 marks]

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6 New Zealand has 16 regions, 9 on North Island and 7 on Sout changes in population caused by migration between these region

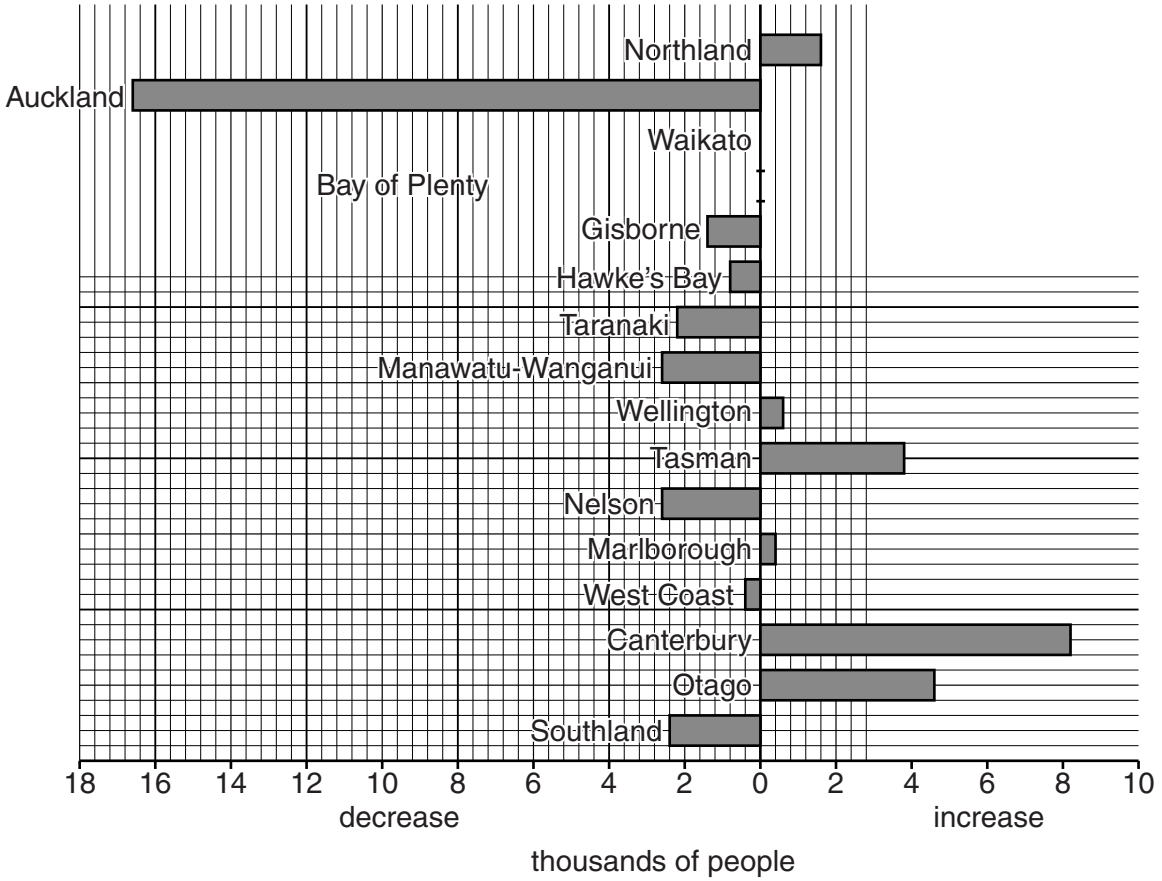


Fig. 9

(a) **(i)** State the number of regions with a decrease in population caused by migration.

.....[1]

(ii) The Bay of Plenty Region had an increase in population caused by migration of 6000. Plot this information on Fig. 9. [1]

(b) Fig. 10 (opposite) shows the location of the 16 regions on the north and south islands of New Zealand and Tables 3A and 3B (opposite) give information about population migration between the regions.

Using this information, describe the population migration in the following areas of **South Island**.

(i) The west coast .....

.....

(ii) The east coast .....

.....

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(iii) The north coast .....

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Population mig

T

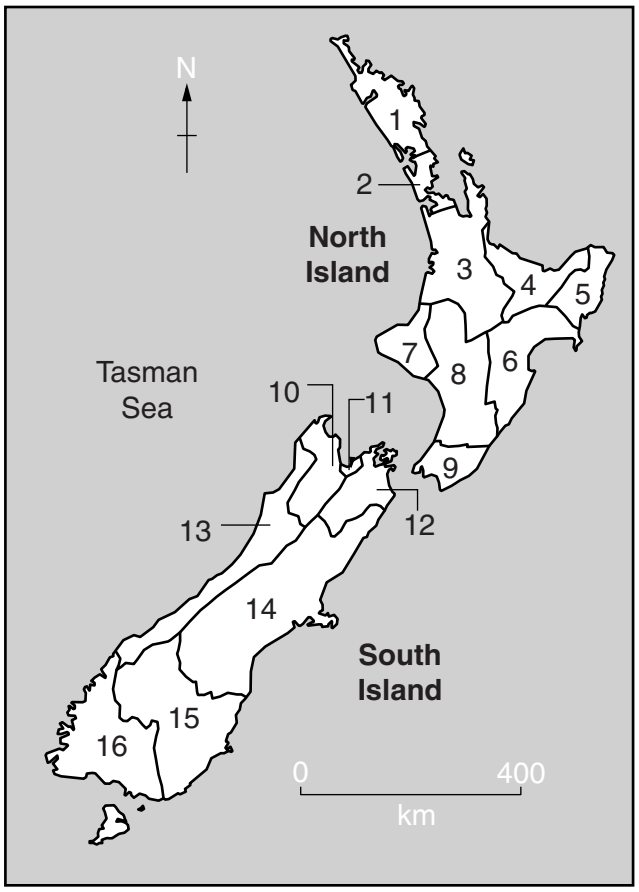


Fig. 10

Region	Decrease caused by migration (thousands)	Increase caused by migration (thousands)
1 Northland		1.5
2 Auckland	16.7	
3 Waikato		5.4
4 Bay of Plenty		6.0
5 Gisborne	1.5	
6 Hawke's Bay	0.8	
7 Taranaki	2.2	
8 Manawatu-Wanganui	2.7	
9 Wellington		0.6
Total	23.9	13.5

Population migration: South Island
Table 3B

Region	Decrease caused by migration (thousands)	Increase caused by migration (thousands)
10 Tasman		3.8
11 Nelson	2.6	
12 Marlborough		0.4
13 West Coast	0.4	
14 Canterbury		8.1
15 Otago		4.5
16 Southland	2.4	
Total	5.4	16.8

(c) Has there been an overall movement of population from South Island to North Island? Give evidence from Tables 3A and 3B to support your answer.

.....

.....

.....

..... [2]

[Total: 8 marks]

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Question 5 Figs 6 & 7	© http://www.eia.gov/nuclear/data.cfm
Question 6 Figs 9 & 10	© www.stats.govt.nz

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