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ADVANCED SUBSIDIARY (AS)
General Certificate of Education
2011

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71	
Candidate Number	
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Geography

Assessment Unit AS 2

assessing

Human Geography

[AG121]



FRIDAY 17 JUNE, MORNING

TIME

1 hour 30 minutes.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

Section A: candidates must answer this section.

Section B: answer **all three** questions in this section.

Section C: answer **any two** questions from this section.

You should write your answers in the spaces provided in this question paper.

You are provided with an insert sheet for use with question 3.

Do not write your answers on this insert.

INFORMATION FOR CANDIDATES

The total mark for this paper is 90.

Quality of written communication will be assessed in **all** questions.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.



6420.07R

For Examiner's use only	
Question Number	Marks
1	
2	
3	
4	
5	
6	
7	
Total Marks	

Section A

Answer this section

- 1 (a) Study **Resource 1A**, a table showing the birth and death rates in Japan between 1955 and 2008 and **Resource 1B** on page 3, a partially completed line graph to illustrate this data.

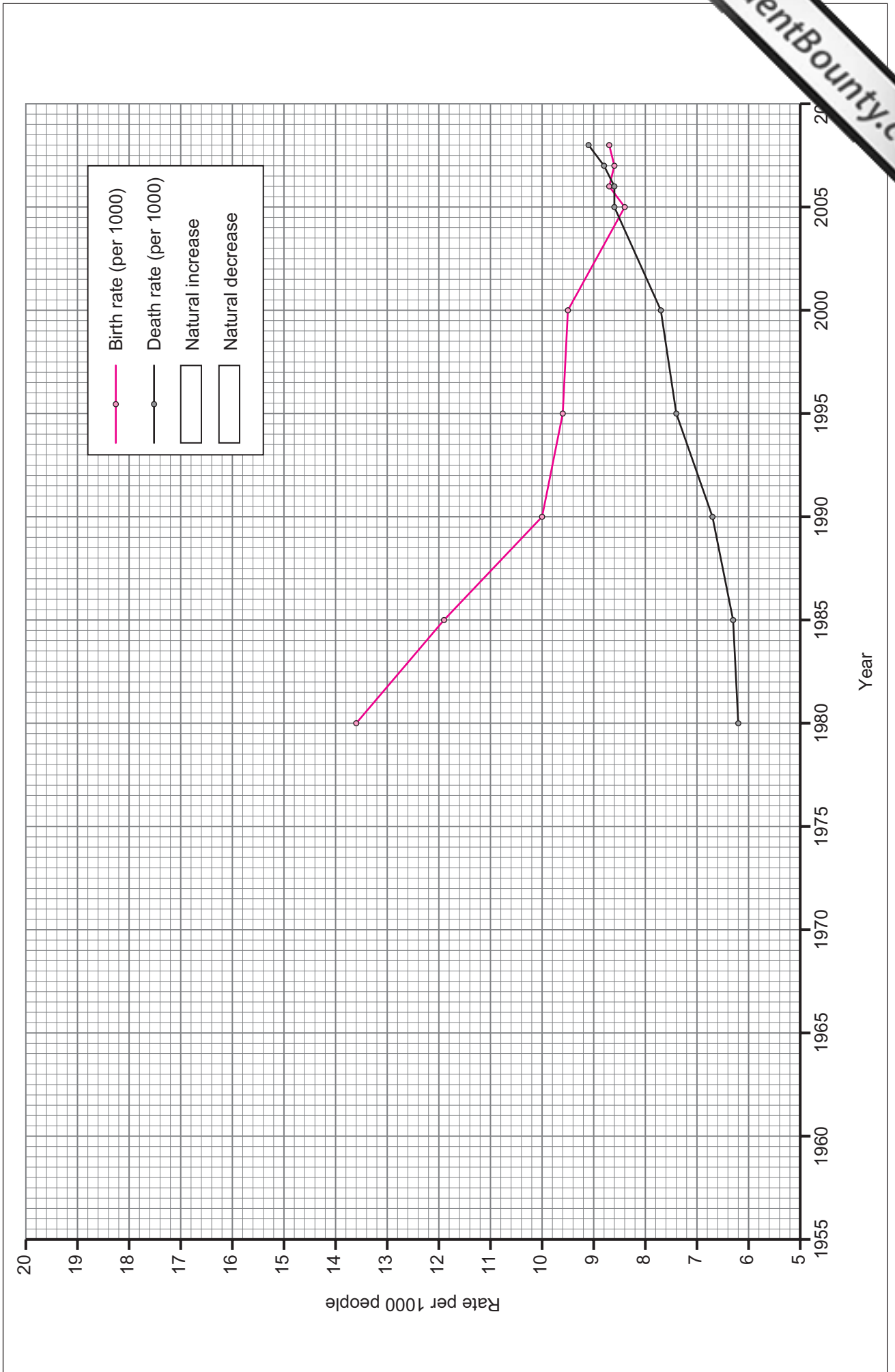
Resource 1A

Year	Live Births per 1000	Deaths per 1000
1955	19.4	7.8
1960	17.2	7.6
1965	18.8	7.1
1970	18.8	6.9
1975	17.1	6.3
1980	13.6	6.2
1985	11.9	6.3
1990	10.0	6.7
1995	9.6	7.4
2000	9.5	7.7
2005	8.4	8.6
2006	8.7	8.6
2007	8.6	8.8
2008	8.7	9.1

© Statistical Handbook of Japan 2011 by Statistics Bureau, Japan

- (i) Complete the line graphs using the data provided in **Resource 1A**. [6]
- (ii) Shade the graph, **Resource 1B**, to indicate periods of Natural Increase and Natural Decrease and complete the key. [2]

Resource 1B



(iii) In what year, between 1955 and 2008, did Japan experience its highest rate of Natural Increase?

_____ [1]

(iv) Apart from birth and death rates, what additional data would be necessary to calculate the population change for Japan over this period?

_____ [2]

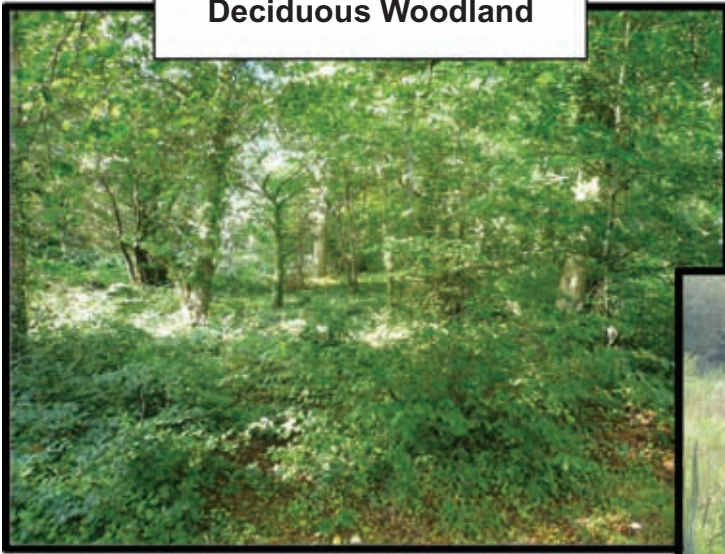
(b) (i) Explain why a quadrat is a useful instrument for geographers when carrying out a vegetation study.

_____ [3]

(ii) With reference to **Resource 1C**, explain why it is essential to consider quadrat size when planning vegetation studies.

_____ [3]

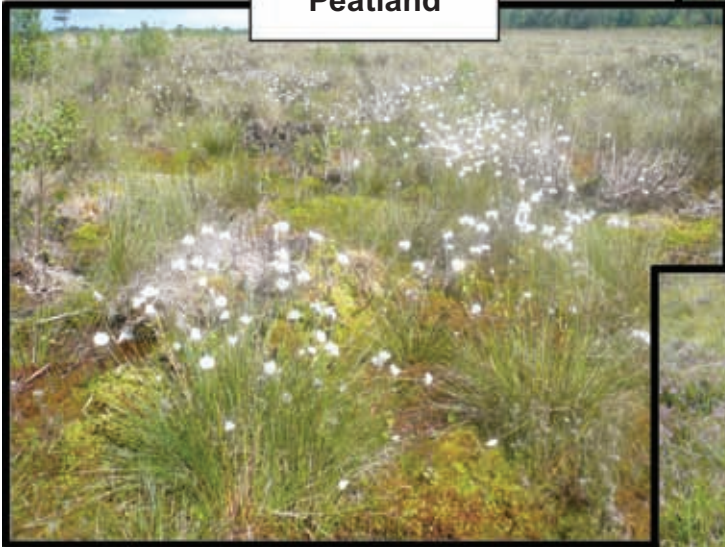
Deciduous Woodland



Marshland



Peatland



Heather Moorland



Lichen on Tree



Source: Principal Examiner

(iii) Explain **one** reason why pragmatic sampling may be considered less than ideal when collecting data.

[2]

(c) **Resource 1D** relates to the initial stages of a Spearman's Rank statistical test used to investigate the relationship between the Human Development Index (HDI) and the percentage of the population living in urban areas for a sample of 15 countries.

(Note the HDI is a composite measure of development composed from data on life expectancy, education and per capita GDP. Each country's value ranges between 0 and 1 with higher values indicating higher levels of development.)

Resource 1D

Country	X HDI	Rank X	Y % Urban	Rank Y	d	d ²
Canada	0.966	1	81	3	-2	4
Japan	0.960	2	79	4	-2	4
Austria	0.955	3	67	5	-2	4
Belgium	0.953	4	97	1	3	9
U.K.	0.947	5	90	2	3	9
Belize	0.772	6	50	9.5	-3.5	12.25
Algeria	0.754	7	58	7		
Bolivia	0.729	8	63	6	2	4
Egypt	0.703	9	43	11	-2	4
Botswana	0.694	10	54	8	2	4
Malawi	0.493	11	17	15	-4	16
Senegal	0.464	12	41	12	0	0
Gambia	0.460	13	50	9.5	3.5	12.25
Mozambique	0.402	14	35	13		
Chad	0.392	15	21	14	1	1

$\Sigma d^2 = 84.5$

© U.S. Central Intelligence Agency

(i) Complete **Resource 1D** by filling in the missing values. [2]

- (ii) In the space below, complete the Spearman's Rank calculation and comment on the statistical significance of the outcome. Formulae and significance charts are presented in **Resource 1E** on page 9.

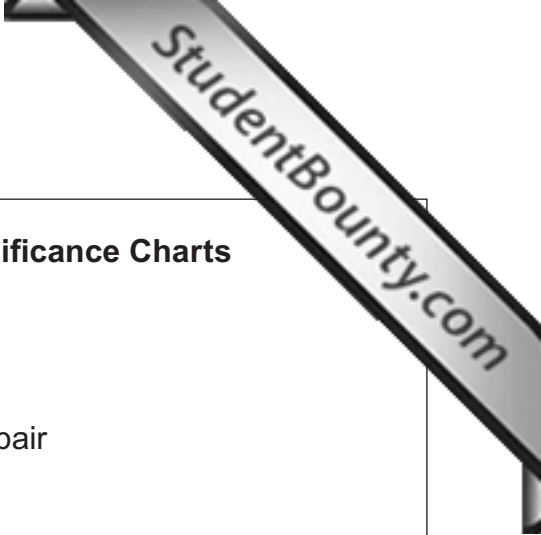
$R_s =$ _____

Comment on the statistical significance

[5]

(iii) What **geographical** reasons could be suggested to explain this statistical result?

[4]

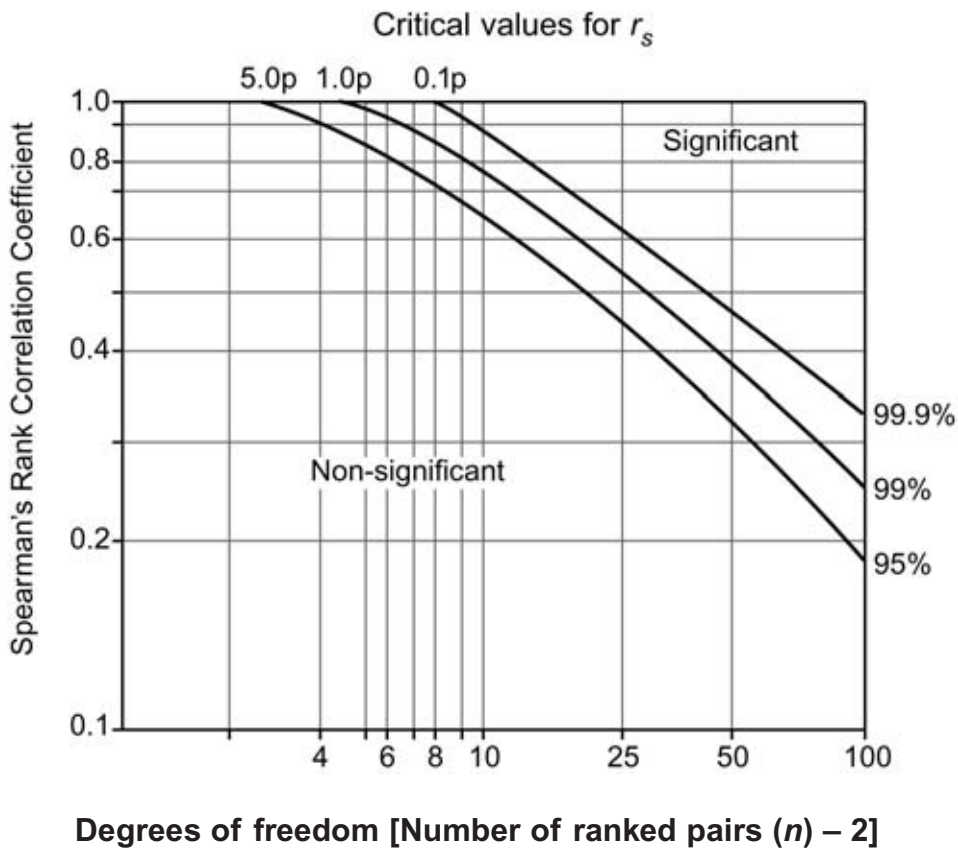


Spearman's Rank Correlation Equation and Significance Charts

Formula:
$$r_s = 1 - \left(\frac{6 \sum d^2}{n^3 - n} \right)$$

where d = the difference in rank of the values of each matched pair
 n = the number of ranked pairs
 Σ = the sum of

Spearman's Rank Correlation Significance Graph and Table



Significance level

degrees of freedom	0.05 (5%)	0.01 (1%)
8	0.72	0.84
9	0.68	0.80
10	0.64	0.77
11	0.60	0.74
12	0.57	0.71
13	0.54	0.69
15	0.50	0.65
20	0.47	0.59

Section B

Answer **all three** questions in this section

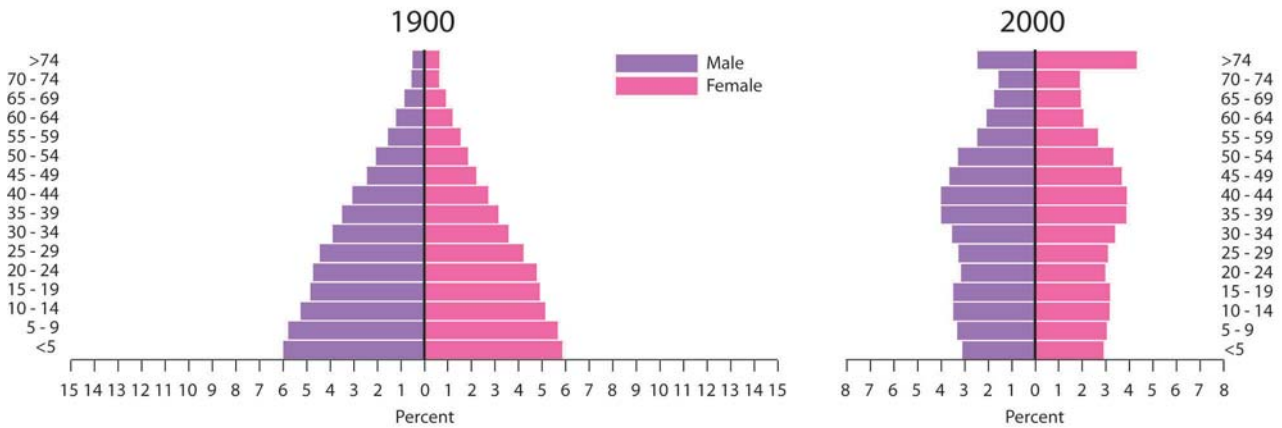
2 (a) Describe the main sources of population data.

[4]

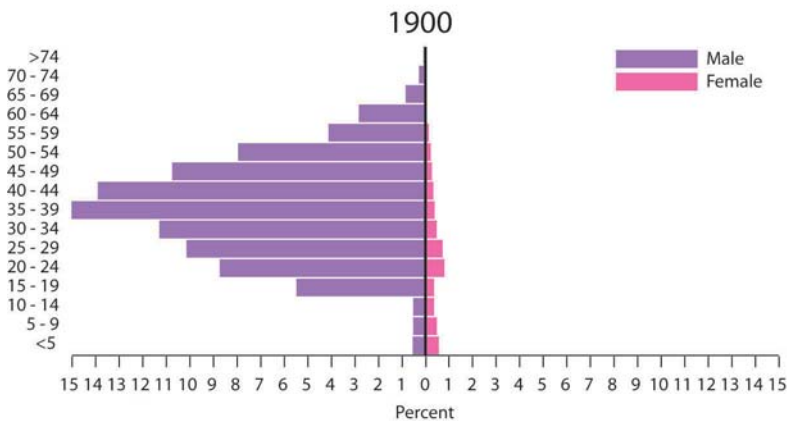
(b) Study **Resource 2** which shows the population structure in the USA of the White population in 1900 and 2000 and the Asian and Pacific Islander population in 1900.

Resource 2

WHITE POPULATION



ASIAN AND PACIFIC ISLANDER POPULATION



© US Census Bureau, Decennial Census of Population, 1900, 1950 and 2000

(i) Describe the changing population structure of the White population in the USA from 1900 to 2000.

[4]

(ii) Describe and explain **one** difference between the population structure of the White population in 1900 and that of the Asian and Pacific Islander population in the same year.

[4]

- 3 (a) Study the insert with **Resource 3A** showing two photographs of graffiti close to Gardiner Square in Belfast, **Resource 3B** which shows the location of Gardiner Square and **Resource 3C**, an extract from an estate agent’s brochure for the Gardiner Square apartments.

Using evidence from **Resources 3A–C**, discuss **one positive** and **one negative** effect of developments such as the Gardiner Square project.

[6]

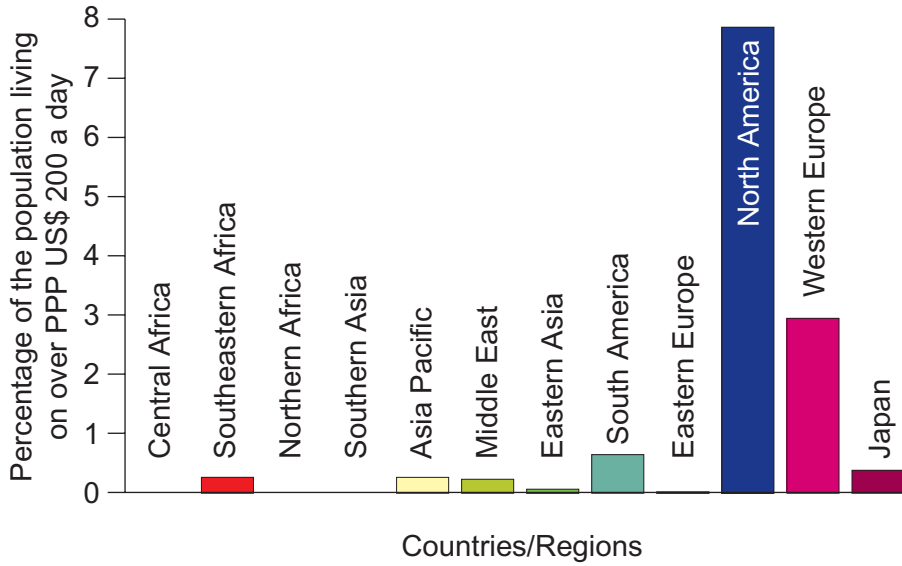
(b) With reference to places for illustration, describe **two** effects of counterurbanisation in the rural/urban fringe.

[6]

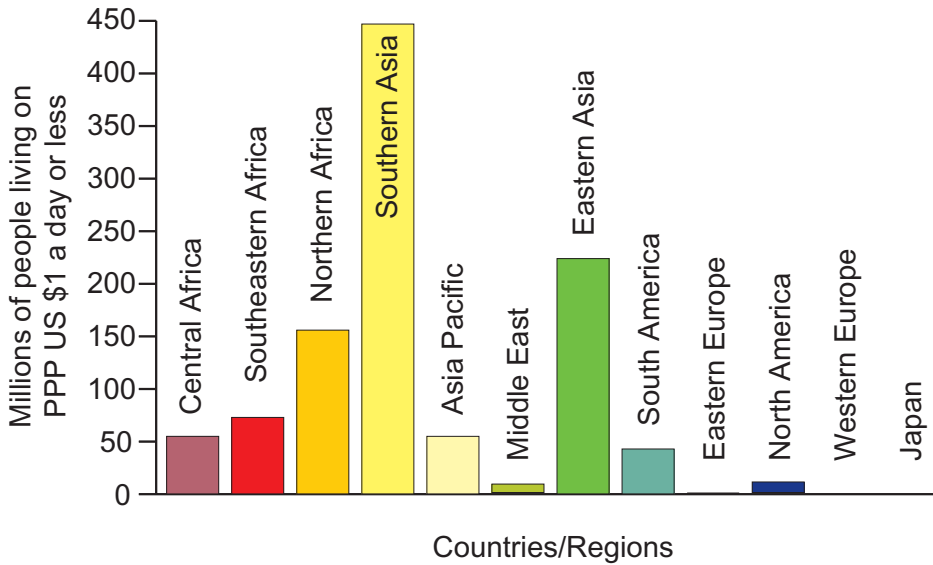
	For Only
	mark

- 4 (a) Study **Resource 4A** which shows the distribution of people who are living on more than 200 dollars a day and **Resource 4B** which shows the distribution of people living on 1 dollar a day.

Resource 4A



Resource 4B



Source: www.worldmapper.org

(i) Using **Resources 4A** and **4B** compare the distribution of people living on more than 200 dollars a day with that of those living on 1 dollar a day or less.

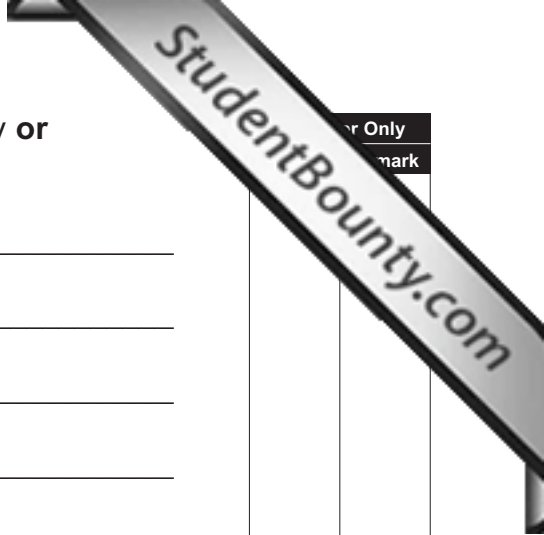
[4]

(ii) Describe and evaluate **one** other economic measure of development.

[4]

(b) Describe and explain **one** way in which aid can positively **or** negatively affect development.

[4]



Mark	Only

Section C

Answer **any two** questions

- 5 With reference to a national case study, describe and explain how population structure, as shown by pyramids, can change over **space**. [12]

- 6 Using your urban case study from a LEDC, discuss the issues created by the rapid urbanisation it has experienced. [12]

- 7 With reference to your national case study, describe and explain regional contrasts in development. [12]

Number your answers clearly

Question
Number

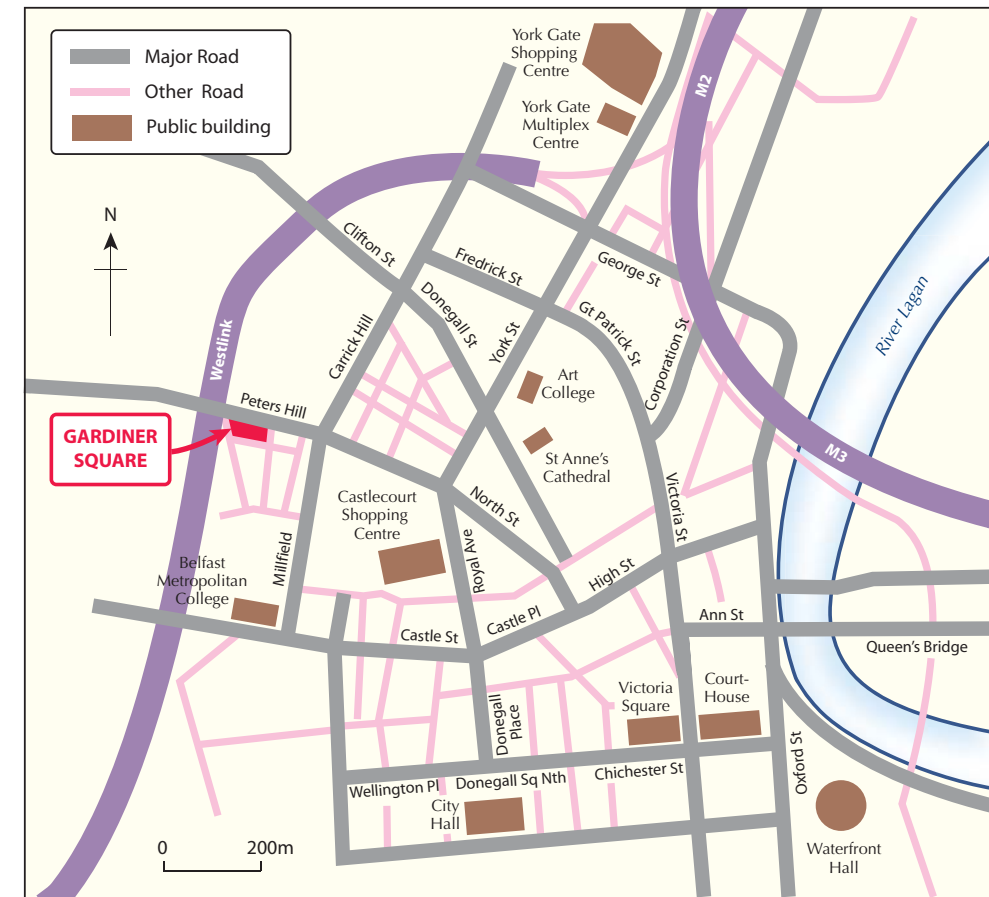
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Resource 3A



Source: Principal Examiner

Resource 3B



© CCEA

Resource 3C

GARDINER SQUARE

Belfast
City Central

Gardiner Square is a contemporary, yet modern development, combining clean, classic lines with a superb standard of specification. Each of its one and two bedroom turnkey homes offer an exclusive opportunity to enjoy city central apartment living.

Apt 42	2 bed	£111,950
Apt 43	1 bed	£114,950



© Hagan Homes