Rewarding Learning

Centre Number

71	

Candidate Number

ADVANCED SUBSIDIARY (AS)
General Certificate of Education
January 2013

Geography

Assessment Unit AS 2

assessing

Human Geography

[AG121]

AG121

MONDAY 21 JANUARY, AFTERNOON

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.

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.

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

Section A

Answer this section.

Examiner Only	
Marks	Remark

1 (a) A geographer used Nearest Neighbour Analysis to investigate the distribution of airports within the state of Texas, USA.

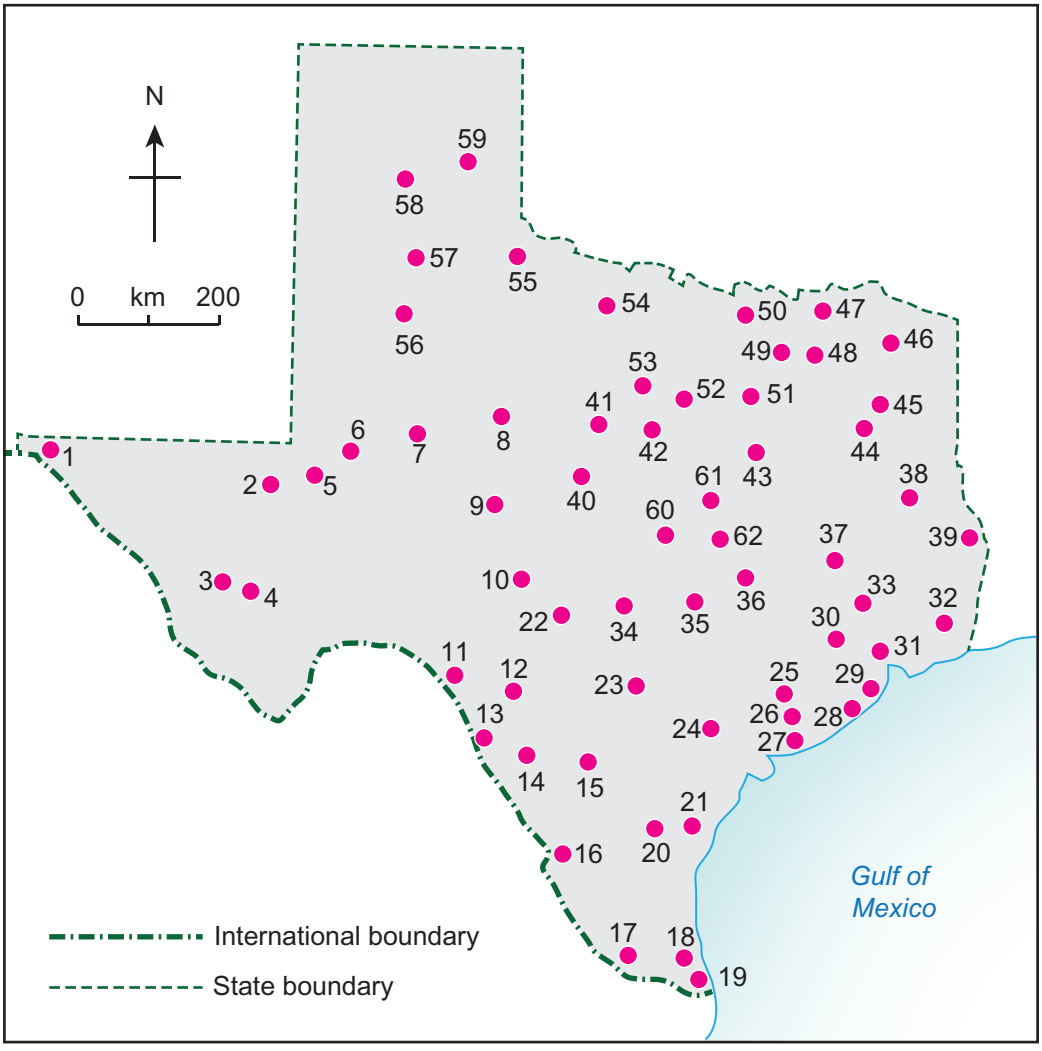
The following hypothesis was proposed:

> "Airports within Texas exhibit a significantly regular distribution pattern throughout the state."

The map, **Resource 1A**, shows the distribution of airports in Texas and the table, **Resource 1B**, is a partially completed Nearest Neighbour Analysis of their distribution.

(i) Using **Resource 1A**, complete the table, **Resource 1B**, by filling in the missing values. [3]

Resource 1A



Resource 1B

Airport number	Nearest Neighbour	Distance (d) (km)
1	2	321.86
2	5	64.31
3		32.15
4	3	32.15
5	6	53.59
6	5	53.59
7		107.18
8	7	117.90
9	10	107.18
10	22	75.02
11	12	85.74
12	11	85.75
13	14	64.30
14	13	64.30
15	14	85.75
16	20	150.05
17	18	85.75
18		32.15
19	18	32.15
20	21	42.87
21	20	42.87
22	10	75.02
23	24	117.90
24	23	117.90
25	26	32.15
26	27	32.15
27	26	32.15
28	29	32.15
29	28	32.15
30	31	171.49
31	29	53.59

Airport number	Nearest Neighbour	Distance (d) (km)
32	31	107.18
33	30	64.30
34	35	107.18
35	36	64.30
36	35	64.30
37	33	53.59
38	39	107.18
39	38	107.18
40	41	85.75
41	42	75.02
42	41	75.02
43	61	96.46
44	45	42.87
45	44	42.87
46	45	75.02
47	48	64.30
48	49	42.87
49	48	42.87
50	49	64.30
51	49	64.30
52	53	53.59
53	52	53.59
54	53	107.18
55	57	150.05
56	57	85.75
57	56	85.75
58	59	85.75
59	58	85.75
60	62	75.02
61	62	75.02
62	61	53.59

Land area = 691,030 km^2

$\Sigma d = 4791.17$

Examiner Only	
Marks	Remark

(ii) In the space below, complete the Nearest Neighbour Analysis (Rn calculation) and state the type of distribution shown on **Resource 1A**. The Nearest Neighbour Index Equation and Significance graphs are presented in **Resource 1C** on page 5. Comment on what this result indicates about the hypothesis stated.

Calculation: Land area = 691,030 km^2

Rn = _____

Type of distribution: _____

Comment in relation to the hypothesis stated:

_____

_____

_____ [6]

(b) When using Nearest Neighbour to identify a distribution pattern, a number of factors can affect the Rn value. Describe and explain one factor that can affect a Rn value.

_____

_____

_____

_____

_____

_____ [3]

Resource 1C

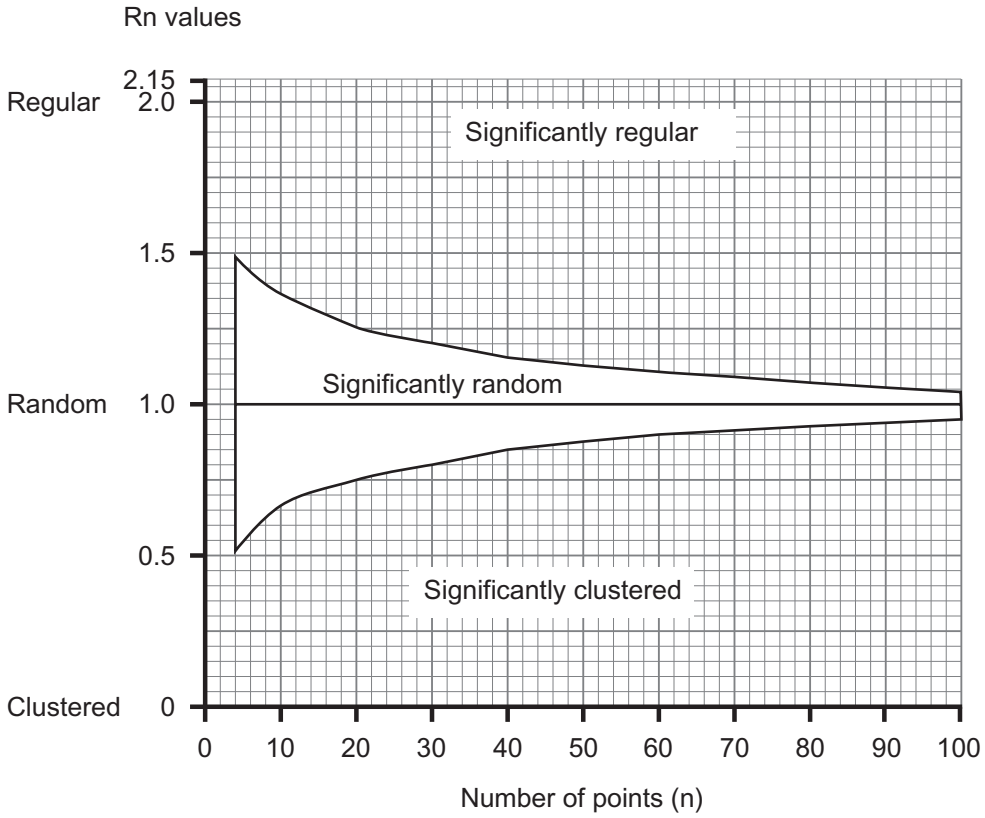
Nearest Neighbour Index Equation and Significance Graph

Formula:

$$Rn = 2\bar{d}\sqrt{\frac{n}{A}}$$

where $\bar{d}$ = the mean distance between nearest neighbours
n = number of points
A = area in question

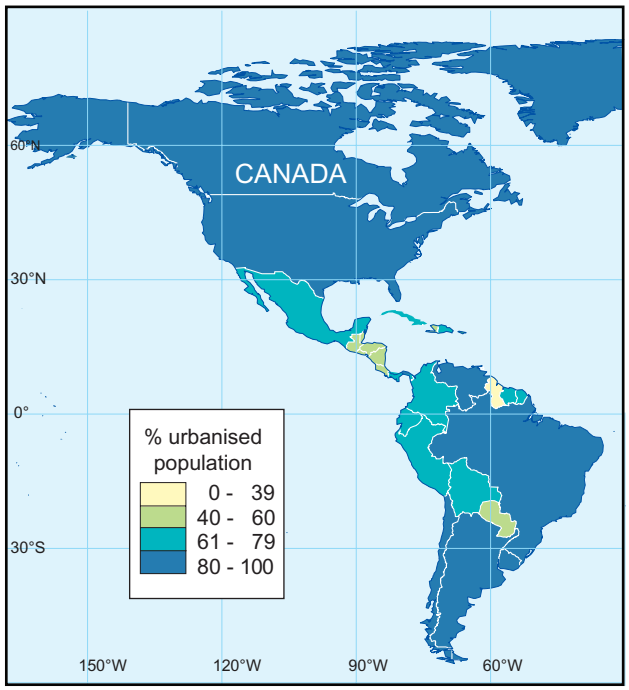
Significance Graph



Examiner Only	
Marks	Remark

(c) Study **Resource 1D**, showing the percentage of each country's population living in urban areas in North and South America. Answer the questions that follow.

Resource 1D



(i) Identify the percentage of Canada's population living in urban areas.

_____ [1]

(ii) Name the mapping technique used to display this data.

_____ [1]

(iii) Describe one advantage and two limitations of this mapping technique.

Examiner Only	
Marks	Remark

[6]

Examiner Only	
Marks	Remark

(d) Study **Resource 1E**, which relates to household income in the USA in 1990, **Resource 1F** a partially completed pie chart to illustrate this data and **Resource 1G** a pie chart showing household income in the USA in 2000. Answer the questions that follow.

Resource 1E

Income group (dollars)	% of total households	Degrees for pie chart sector
less than 10 000	15.0	54
10 000–24 999	26.4	95
25 000–49 999	33.6	121
50 000–74 999	15.0	54
75 000–99 999	5.3	19
100 000–149 999	2.8	
150 000 and above	1.9	

(i) Complete the table (**Resource 1E**) by calculating the missing values. [2]

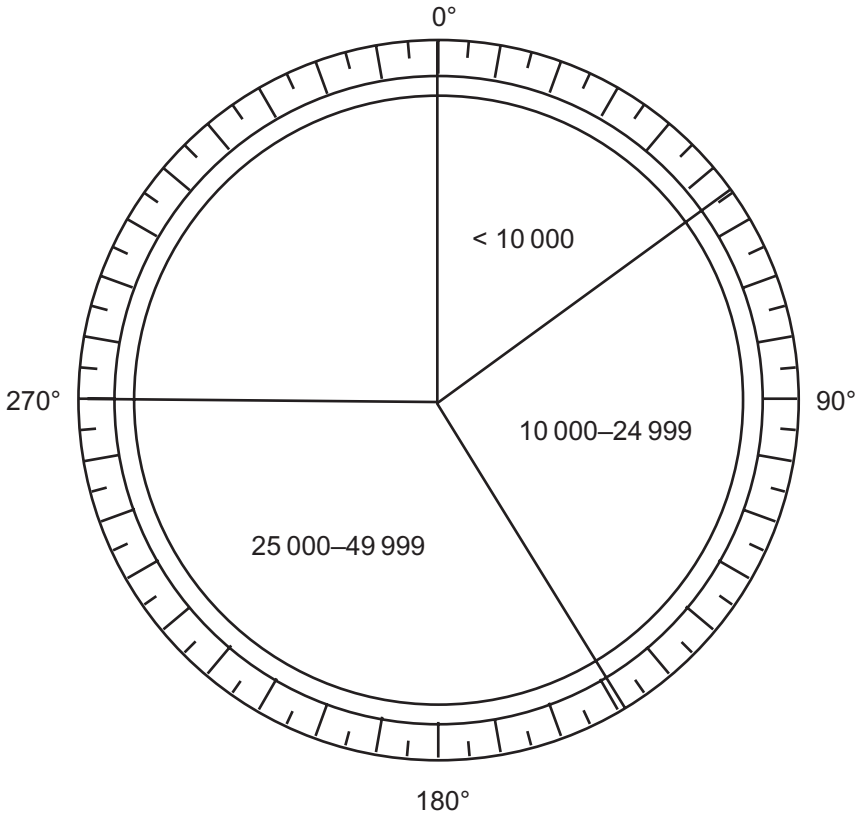
(ii) Using **Resource 1E**, draw and label the remaining four sectors to complete the pie chart, **Resource 1F**. [4]

(iii) Describe the trend in household incomes from 1990 to 2000.

[4]

Resource 1F

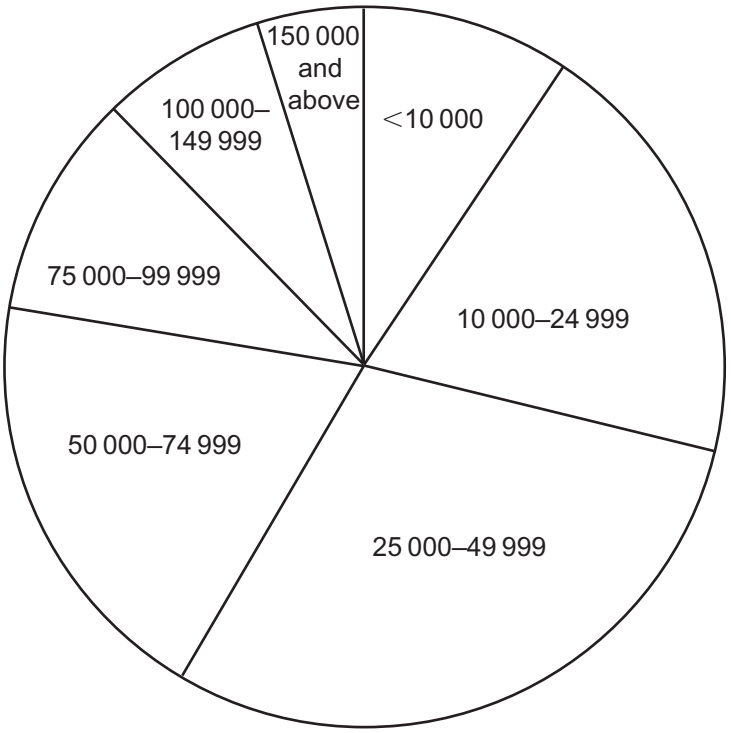
HOUSEHOLD INCOME ($) IN 1990



Source: www.CensusScope.org

Resource 1G

HOUSEHOLD INCOME ($) IN 2000



Source: www.CensusScope.org

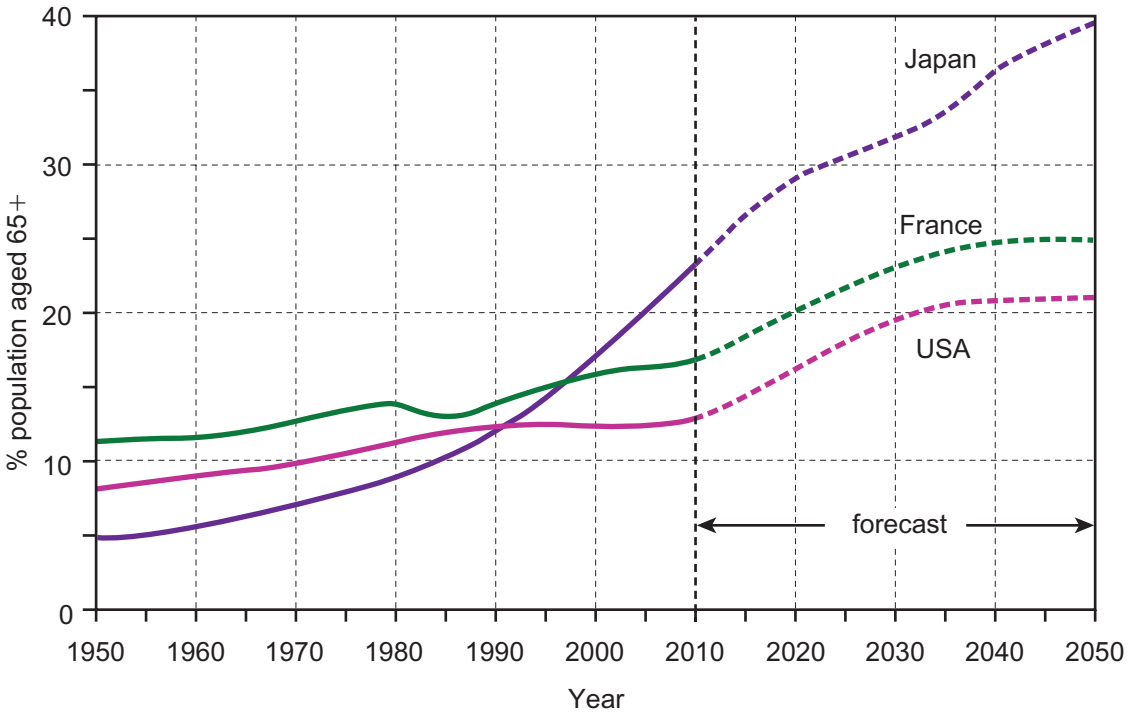
Section B

Answer **all three** questions in this section.

Examiner Only	
Marks	Remark

2 **(a)** Study **Resource 2A** below showing the trends in the proportion of elderly people (aged 65+) in three countries.

Resource 2A



© Statistics Bureau, MIC; Ministry of Health, Labour and Welfare; United Nations

(i) Describe the trends shown in the graph.

[3]

(ii) Outline the **economic** implications of the high aged-dependency ratios shown.

[4]

(b) Compare the problems of collecting reliable population data in MEDCs with those problems experienced in LEDCs.

[5]

Examiner Only

Marks	Remark

Examiner Only	
Marks	Remark

3 **(a)** Study **Resource 3A** showing the number of residents per health worker, **Resource 3B** showing the number of pupils per teacher and **Resource 3C** showing broadband access in different areas of Australia and answer the questions that follow.

Studies removed due to copyright issues

(i) Using **Resources 3A–3C**, describe the problems of service provision in remote rural areas in Australia.

[5]

(ii) With reference to place(s), describe **one other** issue (apart from transport and service provision) experienced in remote rural environments.

[4]

Examiner Only	
Marks	Remark

(b) Describe how the countryside can be managed for conservation and recreation.

Examiner Only	
Marks	Remark

[3]

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(Questions continue overleaf)

4 **(a)** Study **Resource 4A** showing GDP per capita in Botswana, Sub-Saharan Africa and the world (1985–2000) and **Resource 4B** showing trade imports, exports and trade balance in Botswana (2000–2008). Answer the questions that follow.

Studies removed due to copyright issues

(i) Using **Resource 4A**, compare the levels of GDP per capita **and** the rates of change in Botswana with those of Sub-Saharan Africa and the rest of the world.

[3]

(ii) Using **Resource 4B**, suggest how the trade balance of Botswana may have affected its levels of development between 2000 and 2008.

[3]

(iii) GDP per capita is an economic measure of development. Describe the limitations of using this indicator to measure development.

[3]

Examiner Only	
Marks	Remark

(b) Distinguish between colonialism and neo-colonialism.

Examiner Only	
Marks	Remark

_____

_____

_____

_____

_____

_____ [3]

Section C

Answer **any two** questions in this section.

Examiner Only	
Marks	Remark

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

6 With reference to your case study, discuss the issues of rapid urbanisation in LEDCs. [12]

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

Question Number

Number your answers clearly

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Number your answers clearly

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