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AQA

Please write clearly in block capitals.

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Candidate signature _____
I declare this is my own work.

AS
GEOGRAPHY

Paper 2 Human geography and geography fieldwork investigation

Wednesday 24 May 2023 Morning Time allowed: 1 hour 30 minutes

Materials
For this paper you must have:
- a pencil
- a rubber
- a ruler.

You may use a calculator.

For Examiner's Use	
Section	Mark
A	
B	
TOTAL	

Instructions
- Use black ink or black ball-point pen.
- Fill in the boxes at the top of this page.
- Answer **all** questions in Section A.
- Answer Question 2 in Section B.
- Answer **either** Question 3 **or** Question 4 in Section B.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- If you need additional extra space for your answer(s), use the lined pages at the end of this book. Write the question number against your answer(s).
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information
- The marks for questions are shown in brackets.
- The total number of marks available for this paper is 80.

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Only **one** answer per question is allowed.

For the multiple-choice questions, completely fill in the circle alongside the appropriate answer.

CORRECT METHOD ⬬ WRONG METHODS ⊗ ⦿ ≋ ✓

If you want to change your answer you must cross out your original answer as shown. ⬬

If you wish to return to an answer previously crossed out, ring the answer you now wish to select as shown. ⬬

Section A

Answer **all** questions in this section.

Question 1 Changing places

0 1 . 1 Which of the following statements describes a change to a place caused by an inward flow of money and investment?

[1 mark]

A This place saw rapid deindustrialisation in the 1980s and significant industry and jobs were lost from the town. ⬭

B This place was run-down in the 1980s but then wealthy people moved here and improved the old Victorian houses. ⬭

C This place saw migration of its younger residents in the 1980s in search of jobs elsewhere and many have never returned. ⬭

D This place saw the growth of informal housing on its outskirts in the 1980s as refugees arrived from a neighbouring country. ⬭

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0 1 . 2 In which of the following do **both** pieces of data show the economic characteristics of a place using quantitative sources?

[1 mark]

A A newspaper article with a list of the top 10 local employers. A land use map showing areas of green space and recreation. ⬭

B A website documenting community groups and activities. A GIS map of local crime statistics and life expectancy. ⬭

C Old photographs showing industrial and religious buildings. Census data about people living with long-term health conditions. ⬭

D House price data from property websites and the Land Registry. Census data showing employment structure of the local population. ⬭

0 1 . 3 Outline how community or local groups play a role in creating place-meaning.

[3 marks]

_____

_____

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Question 1 continues on the next page

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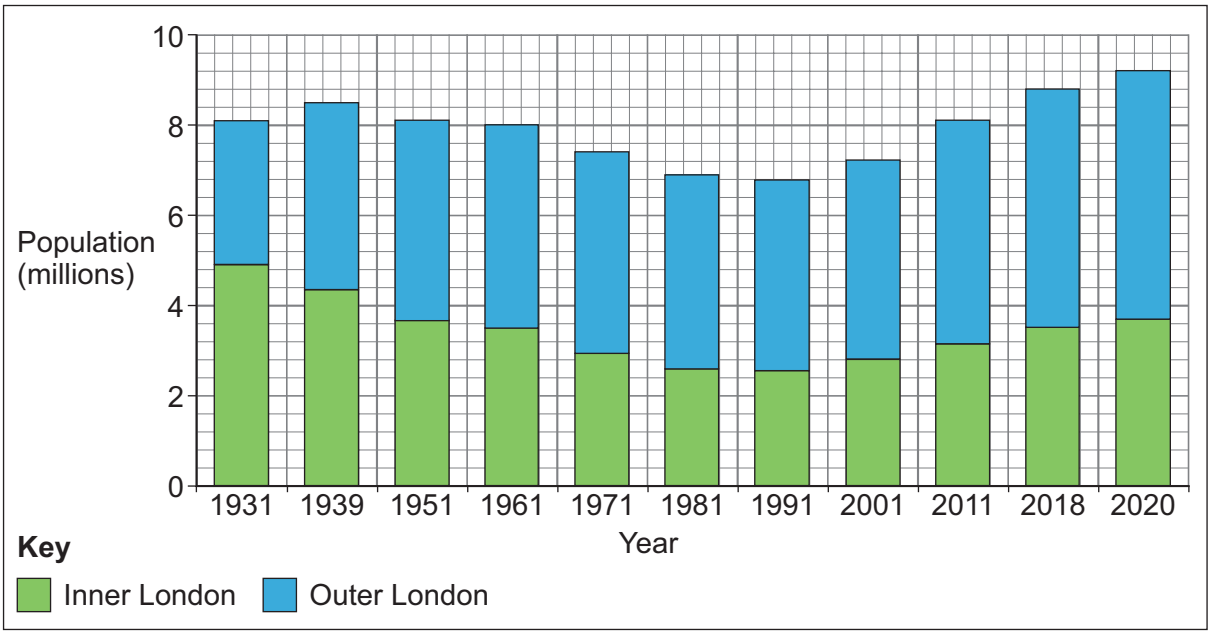
Figure 1 shows changes to London's population between 1931 and 2020.

Figure 1



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0 1 . 4 Analyse the data shown in **Figure 1**.

[6 marks]

Question 1 continues on the next page

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Figure 2a is a photograph of the town of Ramsbottom, Greater Manchester.

Figure 2b is a satellite image showing the location of Ramsbottom in relation to the surrounding area.

Figure 2a

Figure 2b

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0 1 . 5 Using **Figure 2a**, **Figure 2b** and your own knowledge, assess the extent to which the character of a place such as Ramsbottom may be influenced by its location.

[9 marks]

Question 1 continues on the next page

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0 1 . 6 Assess the extent to which past connections have shaped a local place you have studied.

[20 marks]

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Extra space

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40

End of Section A

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Section B

Geography fieldwork investigation and geographical skills

Answer Question 2 and **either** Question 3 **or** Question 4.

Question 2

0 2 . 1 Suggest why it is good practice to evaluate sources of secondary data used in a geography fieldwork investigation.

[2 marks]

_____

_____

_____

_____

Question 2 continues on the next page

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Figure 3a shows a map of the coast of East Yorkshire in about 1900.

Figure 3b shows a current satellite image of the same area.

Figure 3c shows an overlay of the 1900 map on to the current satellite image.

Figure 3a

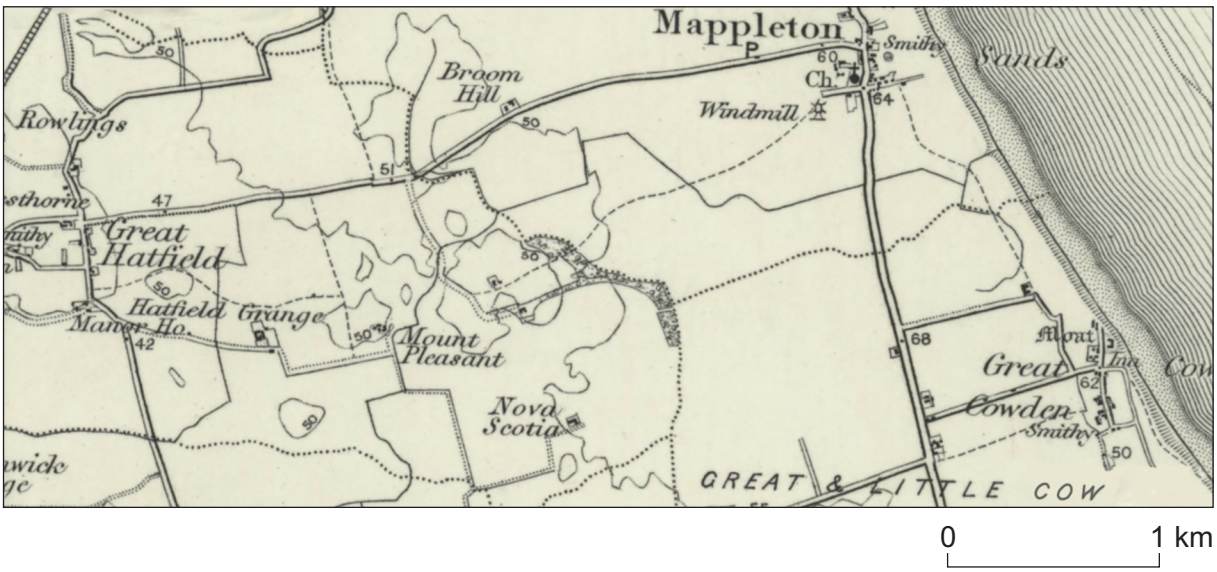

Figure 3b

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Figure 3c

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0 2 . 2 Suggest how **Figure 3a**, **Figure 3b** and **Figure 3c** could together be a useful planning tool for a fieldwork investigation.

[4 marks]

0 2 . 3 Suggest how qualitative data collected from an interview can be analysed.

[2 marks]

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You have experienced geography fieldwork as part of your course. Use that experience to answer the following questions.

State the aim of your fieldwork investigation.

0 2 . 4 To what extent did health and safety considerations influence your choice of site(s) for primary data collection?

[6 marks]

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0 2 . 5 'Thorough planning always leads to reliable data collection in the field.'

With reference to your own experience, to what extent do you agree with this statement?

[9 marks]

23

End of Question 2

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Answer **either** Question 3 **or** Question 4.

Question 3 **(If you answer this question, do not answer Question 4)**

0 3 A student has carried out an investigation into changes in urban land use in a medium-sized town in the south of England.

Figure 4 outlines the aim, the background theory, the hypothesis and the method used for the investigation.

Figure 4

Aim
The student's aim was to investigate if there was a change in dominant land use with distance from the town centre.

Theory
Theory suggests that the main factor affecting land use in high-income countries is land value and this is traditionally higher in the centre of the city. Shops can afford the high prices required in town centres and they are attractive locations for retail as they are accessible by public transport and have high numbers of pedestrians. Other land users are less reliant on accessibility and unable to afford the higher rental costs of the town centre, so land use moves from retailing to industrial and commercial, and then to residential areas with increasing distance from the town centre.

The student's hypothesis for this investigation was:
'The percentage of buildings used as shops will decrease with distance from the town centre.'

Method
The student collected data at ten points along a transect on a main road from the town centre to the edge of the town. A systematic sample was used and at 500 metre intervals he recorded an estimate of the percentage of buildings that were used as shops. He estimated this by surveying the ground floor land use on both sides of the road, and in all directions, as far as he could see.

Question 3 continues on the next page

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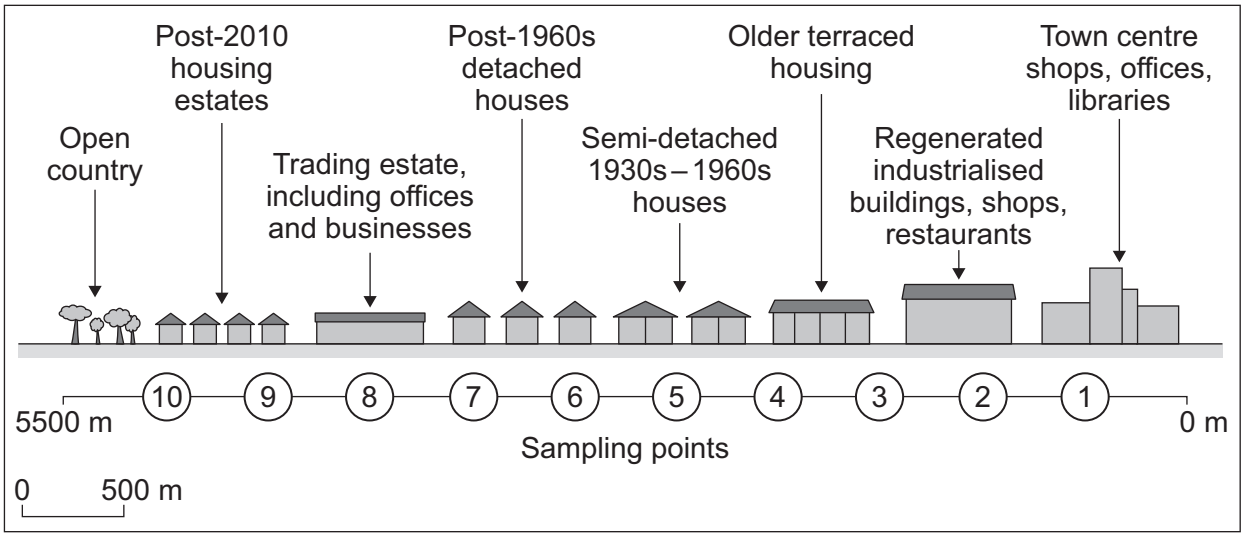
Figure 5 is a sketch diagram of the urban transect the student drew using his local knowledge and Ordnance Survey maps. He added his sampling points.

Figure 5



0 3 . 1 Suggest why the student decided to collect data using a systematic sample.

[2 marks]

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Figure 6 shows the results of his survey.

Figure 6

Sampling point	Distance from town centre (m)	Shops (%)
1	500	60
2	1000	45
3	1500	25
4	2000	10
5	2500	5
6	3000	20
7	3500	15
8	4000	10
9	4500	70
10	5000	0

0 3 . 2 Suggest how the student could present the data in **Figure 6** to help show the relationship between distance from the town centre and the percentage of shops.

[2 marks]

Question 3 continues on the next page

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The student tested for a correlation between the two sets of data in **Figure 6**, using a Spearman's rank correlation test.

Figure 7 shows how he set out the data and started his calculations.

Figure 7

Sampling point	Distance from town centre (m)	Rank of distance	Shops (%)	Rank of % shops	d	d^2
1	500	10	60	2	8	64
2	1000	9	45	3	6	36
3	1500	8	25	4	4	16
4	2000	7	10	7.5	–0.5	0.25
5	2500	6	5			
6	3000	5	20	5	0	0
7	3500	4	15	6	–2	4
8	4000	3	10	7.5	–4.5	20.25
9	4500	2	70	1	1	1
10	5000	1	0	10	–9	81

$\sum d^2$ = _____

$6 \times \sum d^2$ = _____

$$R_s = 1 - \frac{6\sum d^2}{n^3 - n}$$

$$= 1 - \frac{_____}{990}$$

$= 1 -$ _____

R_s = _____

Key

d = Difference between the 2 rankings

n = Number in the sample

$\sum$ = Sum of

R_s = Spearman's rank correlation coefficient

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Figure 8 shows critical values of R_s for Spearman's rank correlation coefficient.

Figure 8

n	Level of significance	
	0.05	**0.01**
10	0.564	0.746

0 3 . 3 Complete the calculation of R_s in **Figure 7** to two decimal places and use **Figure 8** to interpret these findings.

[4 marks]

Question 3 continues on the next page

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0 3 . 4 **Aim**

The student's aim was to investigate if there was a change in dominant land use with distance from the town centre.

Hypothesis

'The percentage of buildings used as shops will decrease with distance from the town centre.'

The student concluded that his data collection and processing had enabled him to reliably test his hypothesis and meet the aim of his enquiry.

Using **Figures 4**, **5**, **6**, **7** and **8**, to what extent do you agree?

[9 marks]

17

End of Question 3

If you have answered Question 3 do not answer Question 4

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Question 4 **(If you answer this question, do not answer Question 3)**

0 4 A student carried out an investigation into changes in plant succession on sand dunes in North Wales.

Figure 9 outlines the aim, the background theory, the hypothesis and the method used for the investigation.

Figure 9

Aim
The student's aim was to investigate if there was a wider variety of plant species as you move inland and away from the sea.

Theory
Succession is the term used to signify the changes in the composition of a community of plants over time. Sand dunes form above the highest high-tide mark behind a beach. The theory states that, as the conditions for plant growth improve with increasing distance from the sea, the species diversity will increase. Therefore, the dunes closest to the sea are likely to be dominated by one species, such as marram grass, whereas the mature dunes furthest from the sea will have a wider variety of plant species.

The student's hypothesis for this investigation was:
'The percentage of species that is marram grass will decrease with distance from the sea.'

Method
The student collected data along a transect from the high-tide mark to the inland boundary of the dune system. A systematic sample was used and, at 20 metre intervals, she recorded an estimate of the percentage of marram grass cover, within one square metre.

Question 4 continues on the next page

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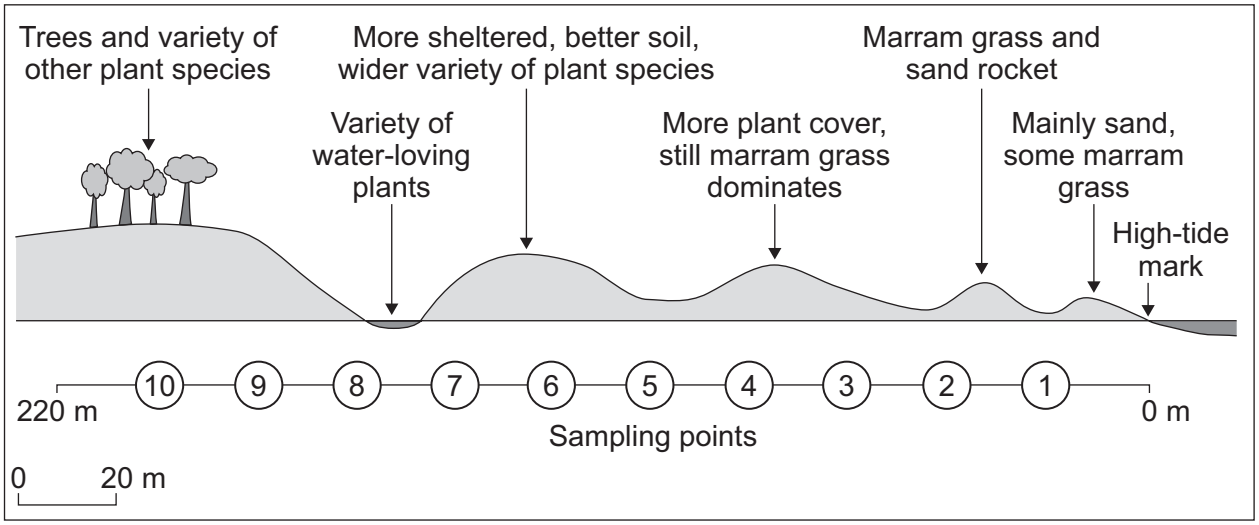
Figure 10 is a sketch diagram of the dune system the student drew using theory from her textbook and aerial photographs of her chosen site. She added her sampling points.

Figure 10



0 4 . 1 Suggest why the student decided to collect data using a systematic sample.

[2 marks]

_____

_____

_____

_____

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Figure 11 shows the results of her survey.

Figure 11

Sampling point	Distance from high-tide mark (m)	Marram grass (%)
1	20	60
2	40	45
3	60	25
4	80	10
5	100	5
6	120	20
7	140	15
8	160	10
9	180	70
10	200	0

0 4 . 2 Suggest how the student could present the data in **Figure 11** to help show the relationship between distance from the high-tide mark and the percentage of marram grass.

[2 marks]

_____

_____

_____

_____

Question 4 continues on the next page

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The student tested for a correlation between the two sets of data in **Figure 11**, using a Spearman's rank correlation test.

Figure 12 shows how she set out the data and started her calculations.

Figure 12

Sampling point	Distance from high-tide mark (m)	Rank of distance	Marram grass (%)	Rank of % marram grass	d	d^2
1	20	10	60	2	8	64
2	40	9	45	3	6	36
3	60	8	25	4	4	16
4	80	7	10	7.5	–0.5	0.25
5	100	6	5			
6	120	5	20	5	0	0
7	140	4	15	6	–2	4
8	160	3	10	7.5	–4.5	20.25
9	180	2	70	1	1	1
10	200	1	0	10	–9	81

$\sum d^2$ = _____

$6 \times \sum d^2$ = _____

$$R_s = 1 - \frac{6\sum d^2}{n^3 - n}$$

$$= 1 - \frac{_____}{990}$$

$= 1 -$ _____

R_s = _____

Key

d = Difference between the 2 rankings

n = Number in the sample

$\sum$ = Sum of

R_s = Spearman's rank correlation coefficient

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Figure 13 shows critical values of R_s for Spearman's rank correlation coefficient.

Figure 13

n	Level of significance	
	0.05	**0.01**
10	0.564	0.746

0 4 . 3 Complete the calculation of R_s in **Figure 12** to two decimal places and use **Figure 13** to interpret these findings.

[4 marks]

Question 4 continues on the next page

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0 4 . 4 **Aim**

The student's aim was to investigate if there was a wider variety of plant species as you move inland and away from the sea.

Hypothesis

'The percentage of species that is marram grass will decrease with distance from the sea.'

The student concluded that her data collection and processing had enabled her to reliably test her hypothesis and meet the aim of her enquiry.

Using **Figures 9**, **10**, **11**, **12** and **13**, to what extent do you agree?

[9 marks]

17

END OF QUESTIONS

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