AQA

A-level
Geography

GEOG2 Geographical Skills
Mark scheme

2030
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Version 1.0: Final

Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts: alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Assessment Writer.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this Mark Scheme are available from aqa.org.uk

GEOG2 General Guidance for GCE Geography Assistant Examiners

The mark scheme for this unit includes an overall assessment of quality of written communication. There are no discrete marks for the assessment of written communications but where questions are 'Levels' marked, written communication will be assessed as one of the criteria within each level.

Level 1: Language is basic, descriptions and explanations are over simplified and lack clarity.

Level 2: Generally accurate use of language; descriptions and explanations can be easily followed, but are not clearly expressed throughout.

Marking – the philosophy
Marking is positive and not negative.

Mark schemes – layout and style
The mark scheme for each question will have the following format:
a) Notes for answers (nfa) – exemplars of the material that might be offered by candidates
b) Mark scheme containing advice on the awarding of credit and levels indicators.

Point marking and Levels marking
a) Questions with a mark range of 1-4 marks will be point marked.
b) Levels will be used for all questions with a tariff of 5 marks and over.
c) Two levels only for questions with a tariff of 5 to 8 marks.

Levels Marking – General Criteria
Everyone involved in the levels marking process (examiners, teachers, students) should understand the criteria for moving from one level to the next – the 'triggers'. The following general criteria are designed to assist all involved in determining into which band the quality of response should be placed. It is anticipated that candidates' performances under the various elements will be broadly inter-related. Further development of these principles will be discussed during the standardisation process. In broad terms the levels will operate as follows:

Level 1: attempts the question to some extent (basic)
An answer at this level is likely to:
• display a basic understanding of the topic
• make one or two points without support of appropriate exemplification or application of principle
• give a basic list of characteristics, reasons and attitudes
• provide a basic account of a case study, or provide no case study evidence
• give a response to one command of a question where two (or more) commands are stated e.g. "describe and suggest reasons"
• demonstrate a simplistic style of writing perhaps lacking close relation to the terms of the question and unlikely to communicate complexity of subject matter
• lack organisation, relevance and specialist vocabulary
• demonstrate deficiencies in legibility, spelling, grammar and punctuation which detract from the clarity of meaning.

Level 2: answers the question (well/clearly)
An answer at this level is likely to:
• display a clear understanding of the topic
• make one or two points with support of appropriate exemplification and/or application of principle
• give a number of characteristics, reasons, attitudes
• provide clear use of case studies
• give responses to more than one command e.g. “describe and explain..”
• demonstrate a style of writing which matches the requirements of the question and acknowledges the potential complexity of the subject matter
• demonstrate relevance and coherence with appropriate use of specialist vocabulary
• demonstrate legibility of text, and qualities of spelling, grammar and punctuation which do not detract from the clarity of meaning.

CMI+ annotations
• The annotation tool will be available for levels response questions. The following annotations should be used where appropriate by dragging comment down and placing it on relevant part of the response as the answer is marked:

Description	desc
Explanation	exp
Comparison	comp
Contrast	con
Comment	com
Justification	just
Advantage	adv
Disadvantage	dis-adv

• Where an answer is marked using a levels response scheme the examiner should annotate the script with 'L1' or 'L2' at the point where that level has been reached. At each point where the answer reaches that level the appropriate levels indicator should be given. In addition examiners may want to indicate strong material by annotating the script as “Good Level…”. Further commentary may also be given at the end of the answer. Where an answer fails to achieve Level 1 zero marks should be given. All Levels response answers must be annotated. Markers must use the prepared comments where relevant.
• Where answers do not require levels of response marking, the script should not be annotated. For point marked questions where no credit-worthy points are made, zero marks should be given.

Other mechanics of marking
• Various codes may be used such as: ‘rep’ (repeated material), ‘va’ (vague), ‘NAQ’ (not answering question), ‘seen’, etc.
• Unless indicated otherwise, always mark text before marking maps and diagrams. Do not give double credit for the same point in text and diagrams.

1 (a)	**Notes for answers:** Bomere Heath is a small settlement (village) outside and approximately 7km to the north of Shrewsbury, whereas Belle Vue lies south of the centre of the town. Bomere Heath appears to have few facilities with little more than a public house (473196) and three churches (e.g. 475195). The settlement is surrounded by farmland (Grange Farm and Bomere Farm) and woodland, whereas Belle Vue lies immediately south of Shrewsbury's Central Business District (accept inner city) and is more heavily built up. Belle Vue has a major A road running through it (A5191) and a railway line, unlike Bomere Heath which is served by small secondary roads. Both settlement areas have 3 churches. There are differences in the sites of the two areas of settlement. While there are no obvious steep gradients in Bomere Heath, the land lies at or around 100 metres above sea level, with a small stream running through the village. Similarly the land at Belle Vue is relatively flat, although It is closer to sea level with contour heights at around 70 metres. It descends more steeply to the north and south towards the River Severn and its tributary. Street layout in Bomere Heath shows irregular patterning with evidence of cul de sac and crescent formations. By contrast, in Belle Vue, street layout shows a more regular pattern, associated with terraced housing. Most of the land appears to be infilled although there are patches of open land next to the river in the south. Allow comparison of site features, layout/structure, function/land use, road and rail patterns or settlement pattern, and wider situation. Answers should be based on map evidence. **Level 1 (1-3 marks):** Makes basic comparisons/contrasts such as recognising that Bomere Heath is a village whereas Belle Vue lies within Shrewsbury. May begin to engage with basic map evidence via place names and recognising comparable features such as the number of churches. Max L1 for 2 separate accounts ie if no comparison or contrast made **Level 2 (4-5 marks):** May use specific map references accurately such as scale, contours/heights, compass points and grid references to support comparisons being made. Makes clear comparisons and contrasts considering features such as road layout, transport comparisons and other features such as the rivers. CMI+ comments L1 Basic comparison(s) L2 Clear comparison(s)	**[5 marks]**

1 (b) (i)	(1) for correct calculation of Windsor Lane. (to at least 1 decimal place. Value must be positive) (1) for correct calculation of Green Lane.(both figures to at least one decimal place. Value must be positive) (1) for correct calculation of $\bar{x}$. (to at least one decimal place) (1) for substituting correct values into the SD formula. (2) for correct answer of standard deviation to 2 decimal places.(Allow 1 mark if answer is correct to 0 or 1 decimal places). (Allow 1 marks if correct to 3 decimal places or more). Credit 1 mark for 96, 96.4, 96.41 etc, 96.418 etc.	**[6 marks]**

Road	**Average house price in £ thousands (x)**	$x - \bar{x}$	$(x - \bar{x})^2$
Back Lane	287	38.25	1463.06
Pool Meadow Close	365	116.25	13514.06
The Common	154	-94.75	8977.56
Pump Road	154	-94.75	8977.56
Bow Way	153	-95.75	9168.06
Fitz	496	247.25	61132.56
Preston Gubbals Road	176	-72.75	5292.56
Windsor Lane	207	-41.75	1743.06* (1 mark)
Merrington Road	275	26.25	689.06
Green Lane	250	1.25*	1.56* (1 mark for both)
Yew Tree Bank	225	-23.75	564.06
Cornfield Close	243	-5.75	33.06
	$\sum x = 2985$		$\sum(x - \bar{x})^2 = 111556.22$
	$\bar{x} =$ 248.75* (1 mark)		

Sd = square root of $\frac{111556.22}{12}$ (1 mark)

= square root of 9296.35

= 96.42 (2 marks)

1 (b) (ii)	**Notes for answers:** **Comparison** Belle Vue has a significantly lower mean house price than Bomere Heath suggesting house prices are typically higher in Bomere Heath. House prices are, on average (mean), £95000 higher than in Belle Vue. However the range of £343,000 in Bomere Heath compared to £186,000 in Belle Vue suggests there is a greater degree of variation in house prices in Bomere with potentially more extremes. Without the actual data for Belle Vue it is difficult to be precise here. The standard deviation figure for Bomere Heath confirms the wider spread of data around the mean compared to Belle Vue assuming the data is normally distributed. **Comment** This suggests housing in Bomere Heath is generally more expensive but does have a wider range of properties, possibly including smaller cottages and two bedroom dwellings compared to much larger detached housing. In Belle Vue housing is generally cheaper/more affordable with a lower range between most and least expensive. This housing may be of a similar type and size, hence the smaller range in house prices. Allow any comment which is reasonably deduced from the data provided. **Level 1 (1-4 marks)** May have miscalculated in 1 (b) (i) but makes appropriate comparison and comment based on inaccurate data. May use data to support but unlikely to manipulate. Comment basic or lacking. Comparison basic or lacking. Max Level 1 for comparison (or comment) only May compare one measure only (mean, or range, or standard deviation) **Level 2 (5-6 marks)** Must compare and comment to access L2, but may be unbalanced. Makes valid and accurate comparisons between the two data sets. Uses mean, range and/or SD accurately to support comparison. May use manipulated data to support comparison. Comment appropriate and reasonably derived from the data. Allow max L2 for making comparisons, with comment, between 2 or more accurate measures. Comparative statements on 2 measures and single clear comment can access level 2 CMI+ comments L1 Basic comparison L1 Basic comment L2 Valid and clear comparison L2 Appropriate comment based on accurate data	**[6 marks]**

1 (c) (i)	1 mark per accurate plot. Plots should be accurate in terms of width using the key and be drawn from Shrewsbury to the destination with accuracy. Line on Figure 4a should be 2 mm wide. Line on Figure 4b should be 1 mm wide. Shading is not necessary. Plotted lines should extend at least as far as the other shaded lines.	**[2 marks]**
1 (c) (ii)	**Notes for answers:** **Description** Bomere Heath has more residents working outside of Shrewsbury than Belle Vue (59 compared to 31). Both locations have few residents working to the west and south; most are employed in an arc from the north east to the south east, though Bomere Heath has a number of residents working in settlements further north such as Manchester and Stockport. There is some evidence that the larger towns and cities appear to attract more employees than the smaller settlements. Birmingham and Manchester appear to be bigger places of employment than smaller settlements such as Kidderminster and Welshpool. Access to work via motorways may be important in affecting employment locations. Birmingham, Wolverhampton and Telford, possibly Manchester appear to be easily reached using motorways. Credit relevant use of data eg Twice as many residents of Bomere Heath commute to Birmingham as to Manchester. No credit for listing journey destinations. **Comment** Allow any reasonable comment which can be derived from the data and also reference to other pieces of data in the paper for those responses which choose this approach e.g. Belle Vue residents do not appear to travel as far to work with more working in Shrewsbury. These may be lower paid jobs than those people commuting out of Bomere Heath based upon house prices for the area. Bomere Heath is further north than Belle Vue and this might explain why more residents commute to northerly towns and cities than is the case for Belle Vue. Work force skill levels may be lower in Belle Vue explaining why there are lower rates of commuting to larger cities further away. Transport costs may be restrictive for residents of Belle Vue, particularly if their incomes are lower. **Level 1 (1-4 marks)** Aware of the basic differences between the two patterns noting the fact that more residents work in Shrewsbury from Belle Vue than Bomere Heath for example. May comment on basic similarities and/or differences between the two maps data displayed. May describe the patterns separately **Level 2 (5-6 marks)** Must describe and comment to access L2. Aware of more sophisticated patterns shown on the maps. May use and manipulate data to support.	**[6 marks]**

	Description is clear and thorough. Comment is appropriate and reasonably derived from the data displayed. Comment may be detailed. May describe and comment on the patterns separately. Description of the two patterns with clear and valid comment on one may access Level 2 CMI+ comments L1 Describes basic pattern(s) L1 Simple comment L2 Clear description of patterns L2 Clear appropriate comment	

2 (a)	**Notes for answers** Any of the following may be considered reasonable advantages: proximity to school, by foot or vehicle; links to risk assessment such as – the students and staff had performed a full risk assessment and the site was judged to be safe; there were trained guides to help minimise the dangers; the site was close to the car park in case of accident, etc. Advantages of the site in specific relation to the aim e.g. the river was accessible along much of its course allowing us to investigate downstream changes **Level 1 (1-3 marks)** Advantages may be a little implicit with more emphasis on describing the location itself. Advantages are basic or extend to only one advantage. May be listed, without development. **Level 2 (4-5 marks)** Clear reference to suitability/advantages of site. Considers more than one advantage. Advantages are clear and relevant. Developed ideas CMI+ comments L1 Basic advantage(s) L2 Clear description of advantages	**[5 marks]**
2 (b)	**Notes for answers** Any method of primary data collection is acceptable. The method should be easy to follow and replicate based upon the information given. The response may make clear reference to the suitability/appropriateness of the method in relation to the aims of the enquiry. Justification may also consider other aspects such as practicality or ease of data collection. However, without appropriate detail, this would be a limited justification. Sampling may be included as part of the method. No credit for secondary data collection **Level 1 (1-4 marks)** Method may be basic with errors and/or omissions. It is likely to be difficult to follow. Justification likely to be generic or even absent. **Level 2 (5-8 marks)** Must describe and justify to access L2, although there may be some imbalance. Method is appropriate for the nature of the enquiry. It is clearly described and easy to follow, possibly with some minor omissions at the bottom end. Justification is clear and explicit. A clear description of method with limited justification may access lower Level 2 marks. A limited description of method with clear justification may access lower Level 2 marks CMI+ comments L1 Basic description of method L1 Simple justification L2 Clear description of method	**[8 marks]**

	L2 Explicit justification	

2 (c)	Max 2 for distinction or 1 mark for each definition. 1 mark for each example of qualitative and quantitative e.g: Qualitative data involves the collection of opinions, perspectives, thoughts and feelings. It does not usually involve the collection of numerical data, though there are exceptions. More subjective in nature. Examples of qualitative data include open-ended questionnaire responses, pebble shape, description of friction, bipolar analysis (EQS),photograph analysis or conversation analysis. However/whereas quantitative data is numerical in form, or can be placed into categories for counting. Unlike qualitative data, it is more objective in nature. Examples include pedestrian counts, stream velocity or beach profile measurements. This data is usually relatively easy to tabulate and graph for further analysis. Beware of crediting direct opposites. Only one mark for numerical / non-numerical.	**[4 marks]**

2 (d)	Any technique from within the specification could be used here including those appearing in the A2 aspect of statistical skills or even those beyond the specification. The description requires the candidate to demonstrate how to apply the chosen technique to the data. Only credit one technique. E.g. The mean temperature at each site was calculated by adding all five values together and then dividing the total by five . The Spearman Rank correlation test was used to analyse the association between river velocity and long profile gradient. Data for both variables was tabulated for the 10 sites visited and the values were ranked from highest to lowest. Differences between ranks were calculated and these differences were squared and then added up. The values were substituted into the formula, the result of which was checked for significance against a probability table…. Expect to reference to stages in the calculation of Spearman's Rank, standard deviation and chi squared. Graphical techniques such as a scatter graph and dispersion graph may feature as a tool of analysis. (Drift into techniques more linked to presentation of data, including tables, bar charts, pie charts. These techniques can still score credit provided the candidate describes the advantages in terms of the opportunity for analysis provided by the technique). Answers should consider the advantages of the technique in relation to the data being analysed or its ease of use. E.g. The mean was calculated to ensure that the results were as consistent as possible. For example, minor error in the recording equipment would be diminished by taking the average of five readings. The correlation coefficient was useful in showing that there was a correlation or link between gradient and velocity. The result also showed the strength of the relationship. It gave a statistical value, indicating a positive correlation of 0.7 which lay above the 95% confidence level. Therefore it is possible to say with 95% confidence that the correlation did not occur by chance. The result helped to support my original hypothesis that the gradient of the river bed affects the velocity or flow of water. **Level 1 (1-4 marks)** A basic response with limited description of how the technique was used to analyse data. May focus on presentation of a technique with analysis only implicit. There may be error or omission at the bottom end. Technique may not be appropriate to the data collected. Basic advantage(s) with reference to the technique being quick and easy to use. There may be only one advantage. May consider advantages without clear reference to technique. **Level 2 (5 - 8 marks)** Must include reference to own fieldwork. Must describe and outline advantage(s) to access L2, although may be imbalanced. Clearly focused	**[8 marks]**

	upon outlining a valid technique with appropriate description. Technique appropriately applied to the data collected. Advantages relate to the benefits/relevance of the technique in relation to the data collected with some detail. Clear outline with limited advantages accesses lower L2 marks CMI+ comments L1 Basic description of technique L1 Outlines simple advantage L2 Clear description of technique L2 Outlines advantage(s) clearly	