



National  
Qualifications

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X833/77/11

Geography

## Marking Instructions

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Please note that these marking instructions have not been standardised based on candidate responses. You may therefore need to agree within your centre how to consistently mark an item if a candidate response is not covered by the marking instructions.



## **General marking principles for Advanced Higher Geography**

*Always use these general principles. Use them in conjunction with the detailed marking instructions, which identify the key features required in candidate responses.*

- (a) Always use positive marking. This means candidates accumulate marks for the demonstration of relevant skills, knowledge and understanding; marks are not deducted for errors or omissions.
- (b) If a candidate response does not seem to be covered by either the principles or detailed marking instructions, and you are uncertain how to assess it, you must seek guidance from your team leader.
- (c) Use the full range of marks available for each question.
- (d) The detailed marking instructions are not an exhaustive list. Award marks for other relevant points.
- (e) Award marks only where points relate to the question asked. Where candidates give points of knowledge without specifying the context, award marks unless it is clear that they do not refer to the context of the question.

### **Marking principles for each question type**

There is a range of question types in this question paper. For each question type, the following provides an overview of marking principles.

#### **Explain questions**

Candidates gain marks for explaining or suggesting reasons for the cause or impact of something, or for referring to causal connections and relationships. Candidates must do more than describe to gain marks here.

For source-based questions, candidates should make use of these and refer to them within their answer for full marks.

Where candidates provide a purely descriptive answer, or one where development is limited, award no more than half the available marks for the question.

#### **Analyse questions**

Candidates gain marks for identifying parts, the relationship between them, and their relationships with the whole; and for drawing out and relating implications.

Award an analysis mark where candidates use their knowledge and understanding or a source to identify relevant components (for example of an idea, theory, argument) and clearly show at least one of the following

- links between different components
- links between component(s) and the whole
- links between component(s) and related concepts
- similarities and contradictions
- consistencies and inconsistencies
- different views or interpretations
- possible consequences or implications
- the relative importance of components
- understanding of underlying order or structure.

Where candidates are asked to analyse, they should identify parts of a topic or issue and refer to the interrelationships between, or impacts of, various factors. For example, where a question asks candidates to analyse the different impacts of flooding on land use, they should consider the effects of the immediate area and also, where appropriate, other areas. Candidates should support analysis with evidence where relevant.

***Evaluate questions***

Candidates gain marks for making a judgement of the success, failure, or impact of something based on criteria. They should give a brief description of the technique or methodology being evaluated, before offering an evidenced conclusion.

***Discuss or comment on questions***

Candidates gain marks for exploring ideas about a project, or the impact of a change. They should consider different views on an issue or argument. They should give a range of impacts or ideas within their answer.

***Draw to scale questions***

Candidates gain marks for drawing a shape or route to the correct size using the given scale of the map.

## Marking instructions for each question

Question		General marking instructions for this type of question	Max mark	Marking instructions for this question
1.	(a)	<p>Award <b>1 mark</b> for scale and <b>2 marks</b> for appropriate choice of location.</p>	3	<p>The size should be 1.6 cm x 2.4 cm. (1)</p> <p>The location should consider</p> <ul style="list-style-type: none"> <li>• a suitable site that includes good accessibility (1)</li> <li>• and either suitable relief (flat/gently sloping, low lying land) (1) or land that is well-drained/not at risk from flooding. (1)</li> </ul> <p>Possible locations might include land adjacent to Newby Cross Farm (365531) or Durdar Farm (404511).</p>
	(ii)	<p>Annotations should contain physical and human location factors.</p> <p>Annotations should contain <b>detailed information</b>, indicating good use of map-reading skills.</p> <p><b>Award a maximum of 4 marks</b> for only physical or human factors.</p>	6	<p><b>Example – Durdar Farm (404511)</b></p> <p>Possible answers may include</p> <ul style="list-style-type: none"> <li>• the land is gently sloping 72 m to 60 m height range. This allows marquees to be erected easily (1)</li> <li>• the land is well drained, 1.5 km from River Caldew, which will allow cars and agricultural vehicles access to the site without getting stuck (1)</li> <li>• there is direct access for the shuttlebus from Carlisle, approximately 5 km along a B class road (1)</li> <li>• the M6 Motorway, junction 42 (GR437518), is approximately 4 km away allowing access to the show for farmers and food producers from Lancaster or southern Scotland (1)</li> <li>• there is a local pub (GR405509) in Durdar that could provide locally produced food and drink for the show (1)</li> <li>• there is a local school in Dalston (GR371505) which could encourage children and their families to take part in this event (1)</li> <li>• the owner of Durdar Farm may take the opportunity to sell their produce directly to the public. (1)</li> </ul> <p><b>Any other valid point.</b></p>

Question		General marking instructions for this type of question	Max mark	Marking instructions for this question
(b)	(i)	<p>Candidates should explain how they would gather relevant data.</p> <p>Candidates should explain a sampling methodology in their answer.</p> <p><b>Award a maximum of 4 marks if no mention of a sampling methodology.</b></p> <p><b>Award a maximum of 3 marks for any one gathering technique.</b></p>	5	<p>Possible answers may include</p> <ul style="list-style-type: none"> <li>• pH can be measured using a probe or soil testing kit. (1) The probe is inserted fully into the soil and a reading is taken from a scale. (1) Soil is mixed with water, barium sulphate and indicator solution and then is placed in the testing kit to obtain the pH by referring to a colour chart (1)</li> <li>• organic content is measured by collecting 5-10g of soil. (1) This is placed in a crucible and weighed. (1) The soil sample is burned for 30 minutes over a Bunsen burner. (1) Once cooled, the burnt soil in the crucible is weighed. The organic content is the amount of material that has burned away as a percentage of the total (1)</li> <li>• sampling methodology — this data could be gathered using systematic sampling at regular intervals along a transect. This methodology would avoid bias/ensure complete coverage of the area being studied. (1)</li> </ul> <p><b>Any other valid point.</b></p>
	(ii)	Candidates should comment on problems that might be encountered in gathering valid and reliable data.	2	<p>Possible answers may include</p> <ul style="list-style-type: none"> <li>• there will be variations in data collected according to when the field study is conducted (for example, winter or summer) (1)</li> <li>• soil infiltration data may be affected by recent weather conditions/soil erosion/trampling (1)</li> <li>• access to certain parts of the farm could be difficult due to land use within each field, for example, in order to prevent trampling of crops, disruption of livestock or unnecessary risk. (1) This may also lead to a random sampling rather than systematic due to restrictions on access (1)</li> <li>• safety considerations are a valid problem/issue, for example the spreading of livestock diseases. (1)</li> </ul> <p><b>Any other valid point.</b></p>

Question		General marking instructions for this type of question	Max mark	Marking instructions for this question
	(iii)	<p>Candidates should evaluate the choice of an interview as an appropriate gathering technique.</p> <p>Candidates can be credited for both positive and negative aspects of interviews.</p>	3	<p>Possible answers may include</p> <p><b>Advantages</b></p> <ul style="list-style-type: none"> <li>interviews are a more informal and flexible way of gathering information than a questionnaire, for example. (1) They provide first-hand information and allow for the opportunity to ask open ended questions that can often provide the interviewer with detailed information (1)</li> <li>the interviewee may share their opinions/suggestions/feelings/experiences/knowledge (1)</li> <li>the interviewer may ask supplementary questions. (1)</li> </ul> <p><b>Limitations</b></p> <ul style="list-style-type: none"> <li>interviews may gather data which will be largely qualitative. (1) This may be difficult to analyse statistically (1)</li> <li>many interviews would need to be conducted, which would be time consuming, to allow for valid and reliable data to be gathered. (1)</li> </ul> <p><b>Any other valid point.</b></p>
	(c)	For <b>1 mark</b> candidates must identify <b>two</b> correct land uses and grid references within the 20m flood limit.	2	<p>Possible answers may include</p> <ul style="list-style-type: none"> <li>Woodland at Atkinson's Plantation (GR449573)</li> <li>Settlement at Rickerby (GR414573)</li> <li>Golf course at Stonyholm (GR414565)</li> <li>Farmland at Tower Farm (GR418571)</li> <li>Hadrian's Wall path (GR433587)</li> <li>Roads at A689 (GR448598)</li> </ul> <p><b>Any other valid point.</b></p>

Question		General marking instructions for this type of question	Max mark	Marking instructions for this question
(d)	(i)	Candidates should outline environmental impacts of flooding within the Carlisle urban area	9	<p>Possible answers may include</p> <ul style="list-style-type: none"> <li>• walls/buildings collapsing or being washed away, for example, school at GR405564 (1) overtopping of flood defences/embankments GR432584 (1)</li> <li>• infrastructure damage, for example, bridge at GR389571 (1)</li> <li>• transportation and deposition of sediment from upstream (1)</li> <li>• reduced water quality/sewage/pollution from commercial properties (1)</li> <li>• negative affects on aquatic life of river. (1)</li> </ul> <p><b>Any other valid point.</b></p>
	(ii)	<p>Candidates should discuss ways in which the impacts of flooding can be reduced in Carlisle and the surrounding area.</p> <p><b>Award a maximum of 6 marks for either part (i) or (ii).</b></p>		<p>Possible answers may include</p> <ul style="list-style-type: none"> <li>• new flood defences (1)</li> <li>• tree planting/land management of the river catchment area (1)</li> <li>• flood resilience (1)</li> <li>• pumping stations (1)</li> <li>• reinforcing/raising existing embankments (1) flood alerts for residents of Carlisle (1) building new homes in non-flood risk areas (1) adapting existing homes to be more flood proof, for example, raising electricity sockets. (1)</li> <li>• Partnership involvement to review and manage future risk of flooding. (1)</li> </ul> <p><b>Any other valid point.</b></p>

Question		General marking instructions for this type of question	Max mark	Marking instructions for this question
2.	(a)	<p>Analyse, in detail, the distribution of corrie orientation as shown in the dispersion diagram.</p> <p>Candidates should refer to diagram 6 in their answer.</p>	7	<p>Possible answers may include</p> <ul style="list-style-type: none"> <li>• the distribution of corrie orientation is more clustered for area 1 than area 2, which is more dispersed (1)</li> <li>• the distribution for area 1 ranges from <math>10^{\circ}</math> to <math>85^{\circ}</math> whereas the range for area 2 is <math>5^{\circ}</math> to <math>185^{\circ}</math> (1)</li> <li>• the range for area 1 is <math>75^{\circ}</math> compared with area 2 which has a much greater range of <math>180^{\circ}</math> (1)</li> <li>• this is shown by the larger IQ range for area 2 (1)</li> <li>• in area 1 there is a bunching/clustering of data between <math>45^{\circ}</math> and <math>60^{\circ}</math> compared with area 2 where the bunching/clustering is between <math>5^{\circ}</math> and <math>15^{\circ}</math>. (1)</li> </ul> <p><b>Any other valid point.</b></p>
	(ii)	<p>Comment on the usefulness of a dispersion diagram as a data presentation technique to show this information.</p> <p><b>Award a maximum of 4 marks for either (i) or (ii).</b></p>		<p>Possible answers may include</p> <ul style="list-style-type: none"> <li>• can show the spread/distribution of data around the median (1)</li> <li>• can be used to compare the spread/distribution of similarly sized data sets (1)</li> <li>• can clearly show anomalies (1)</li> <li>• allows for illustration/calculation of IQ range. (1)</li> </ul> <p><b>Any other valid point.</b></p>
	(b)	State an appropriate null hypothesis.	1	There is no difference between the observed orientation of corries and the expected orientation of corries in the two areas. (1)

Question		General marking instructions for this type of question	Max mark	Marking instructions for this question
	(ii)	Evaluate the significance of the chi squared result in relation to the null hypothesis.	3	<p>Possible answers may include</p> <ul style="list-style-type: none"> <li>• the chi squared result of 13·11 is greater than both the 0·05 and the 0·01 critical values, indicating a very significant result (1)</li> <li>• we can therefore reject our null hypothesis and accept the alternative hypothesis (1)</li> <li>• that there is a very significant difference in the observed orientation of corries and the expected orientation in the two areas of Scotland (1)</li> <li>• there is a 99% degree of certainty that the result will not have occurred by chance. (1)</li> </ul> <p><b>Any other valid point.</b></p>
	(iii)	<p>Discuss the suitability of the chi squared statistic to investigate corrie orientation in the two areas.</p> <p>Candidates can be credited for any valid point, whether positive or negative.</p> <p><b>Do not award marks for reverse points.</b></p>	5	<p>Possible answers may include</p> <p><b>Usefulness</b></p> <ul style="list-style-type: none"> <li>• can test the associations between variables (1)</li> <li>• one of the most widely used and versatile tests of association (1)</li> <li>• can be compared with significance tables to confirm whether the difference between the observed data and the expected data is a chance effect or has statistical significance (1)</li> <li>• the sample should include 20 observations in each area. (1)</li> </ul> <p><b>Limitations</b></p> <ul style="list-style-type: none"> <li>• the data must be in the form of frequencies (1)</li> <li>• the data must have precise numerical value/no derived data, for example, %'s (1)</li> <li>• the expected frequency in any one category must be greater than 5 (1)</li> <li>• the data must be organised into categories or groups. (1)</li> </ul> <p><b>Any other valid point.</b></p>

Question		General marking instructions for this type of question	Max mark	Marking instructions for this question
(c)		<p>Explain factors that may have influenced corrie orientation in Scotland.</p> <p>Candidates should explain or suggest reasons for corrie orientation in Scotland.</p>	4	<p>Possible answers may include</p> <ul style="list-style-type: none"> <li>• solar insolation – north facing slopes receive least insolation resulting in less ice melting (1)</li> <li>• wind direction – warm south westerly prevailing winds cause snow and ice to melt more quickly, resulting in fewer corries with a south westerly orientation (1)</li> <li>• orientations opposite to prevailing wind direction would catch wind-blown snow, contributing to corrie formation in the past (1)</li> <li>• the fact that Scotland has corries with all orientations may highlight climatic variations in the past (1)</li> <li>• anomalous corrie orientation may be the result of high altitudes causing high levels of overall snow and ice accumulation. (1)</li> </ul> <p><b>Any other valid point.</b></p>

[END OF MARKING INSTRUCTIONS]