



National
Qualifications
2026

2026 Geography

Advanced Higher

Question Paper Finalised Marking Instructions

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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)	(i)	Candidates draw accurately to scale a suitable site for a distribution warehouse centre. Award 1 mark for scale and 2 marks for appropriate choice of location.	3	The size should be 1.8cm x 1.2cm (1) The location should consider: • a suitable site that includes good road accessibility (1) • a suitable relief (flat/gently sloping land) across the whole site (1) A potential suitable site might include land to the south of the large industrial buildings at Celtic Lakes (284838).
		(ii)	Candidates should explain the reasons for their choice of location. Credit anything valid written on the tracing overlay as well as in the answer booklet. Answers should contain detailed information, indicating good use of map reading skills and map evidence. Award 1 mark for each valid point.	5	Example south of Celtic Lakes (284838). Possible answers may include: • land is fairly flat across the site reducing building costs (1) • less than 2km from junction 28 of the M4 giving direct road access to Cardiff to the west and Bristol/South-West England to the East (1) • Alexandra Docks (323849), just 4km from the site provides an easily accessible location to import products to be distributed (1) • has easy local road access with a roundabout (283842) already constructed to connect to, reducing the cost of local infrastructure (1) • surrounding large industrial buildings (278842) meaning the development is more likely to get planning consent with similar zoning nearby (1) • land is slightly higher (above 10m) than the wet ground to the south and gently slopes in that direction making flooding less likely (1) • housing nearby (290843), within walking distance, provides a nearby workforce, reducing commute times and making the operation more sustainable (1) Any other valid point.

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		(iii)	Candidates should discuss the positive impacts the distribution warehouse may have on local people. Accept only positive impacts. Award 1 mark for each valid point.	4	Possible answers may include: • jobs during the construction phase could benefit local people, eg from Duffryn (2985) (1) • there may be training opportunities to help younger people develop and nurture their employability skills (1) people who have been unemployed may feel more positive about their future (1) • this will in turn boost the local economy as people will have more disposable income (1) An increase in jobs means local council will have more funds through council tax to spend on local area improvements (1) • local schools in the area, eg 295854, could visit the warehouse and be educated about engineering and distribution (1) • building on brownfield sites may reduce the visual pollution, making it a more appealing place to live in (1) • local delivery times may be quicker with a new distribution warehouse in the area (1) Any other valid points.
	(b)		Candidates should suggest how the design and layout of the distribution warehouse could be built sustainably. Award 1 mark for each valid point. Award 0 marks for conflict management strategies	3	Possible answers may include: • recycling facilities could be incorporated in and around the distribution warehouse to reduce waste and to encourage recycling (1) • solar panels which could be placed facing south/southwest anywhere on the flat roof (1) • rooftop flower beds (vegetative green roof) could encourage insects/bird nests boosting local biodiversity (1) • trees could be planted to offset carbon emissions during construction (1) • electric charge points could encourage use of electric cars and delivery vehicles (1) • wind turbines could be used on-site to provide renewable energy to help power the warehouse (1) • locally produced (organic) food could be used in the cafés and vending machines within the warehouse reducing its carbon footprint of transportation and to promote local agriculture (1) • interior spaces could be constructed using locally resourced timber to support sustainability goals (1) They could also be furnished with repurposed furniture/fittings to meet sustainability goals (1)

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					- recycled aggregate concrete reduces landfill waste and could be used in the construction of the warehouse and promote local employment opportunities (1) - rainwater could be collected to be used within the building eg flushing toilets/watering plants (1) Any other valid points.

Question			General marking instructions for this type of question	Max mark	Marking instructions for this question
	(c)		Candidates explain why this part of South Wales is suitable for tourism and recreation. Award 1 mark for each valid point.	5	Possible answers may include: - the south coast is accessible via the M4 from cities like London (atlas) meaning it is within reach of the many urban UK populations (1) - visitors may come for the Newport Wetlands National Nature Reserve (330830) giving the opportunity to see wetland bird species (1) - visitors may come for the historical industrial landscape of South Wales e.g. the Transporter Bridge (317863) and neighbouring areas. (1) - there are car parks (335834) near the Wales Coast Path allowing easy access to the path for walkers (1) - refreshments for walkers/cyclists are provided by pubs along the route, also allowing visitors to support local businesses (299814) (1) - Ynysfro Reservoirs (285891) could offer visitors a suitable location to go fishing (1) - information centres (339905) and Cadw/Welsh Heritage sites (334904) would be suitable for visitors with an interest in the area's history (1) - by following the coast for large parts of the route (285806) walkers and cyclists on the Wales Coast Path will have fabulous views across the Severn Estuary to settlements like Portishead and Exmoor National Park (atlas) (1) - the Sirhowy Valley Path starts near Newport train station (308883) and passes Rogerstone Station (263891) allowing easy access from public transport giving an option to start/end the walk at different points along the route (1) - July temperatures of 17 degrees (atlas) make it more pleasant for outdoor activities (1) - rainfall levels are between 750mm-1000mm (atlas) so museums (313879) would provide a rainy-day activity (1) Any other valid point.

Question			General marking instructions for this type of question	Max mark	Marking instructions for this question
2.	(a)		Using map evidence, candidates explain an appropriate sampling method, or methods, that could be used for this investigation. Award a maximum of 3 marks if no reference to the map. Award a maximum of 2 marks for description. Award 0 marks for naming the sampling method Award 1 mark for each valid point.	4	Possible answers may include: • a systematic approach could be used such as belt transects with soil analyses taken at regular intervals (1d) • systematic sampling covers a more representative area than other sampling techniques (1) eg, data from across the farms between Walk Farm 255833 and Fair Orchard 302838 could be compared and relationships identified (1) • random sampling may use a sampling grid that could be applied to the area and a random number generator used to create 'grid references' in which to sample (1d) • this could remove any possible bias in the research (1) but could make the research challenging if the sample points are in less accessible locations like the A48(M) or the M4 in 270843 (1) • a stratified approach could be used dividing the map extract into specific farming areas and then sampling these areas (1d) because the region has lots of built-up areas and roads (1) • stratified sampling may be able to determine if correlations exist (1) • stratified sampling is useful because soil varies across a farm- splitting the land into groups and sampling each one ensures all areas are represented making the results more reliable than random sampling (1) Any other valid points.

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	(b)	Candidates should describe how soil analyses could be carried out by the council. Award 1 mark for each valid point. Award 0 marks for repeated points between techniques.	6	Possible answers may include: - to collect soil profile data, pits need to be dug deep enough to expose the horizons (1) - a soil auger could be used to remove a core of soil (1). Once the auger is removed, photographs of the different horizons should be taken before removing the sample from the auger (1) - the soil samples should be bagged for further analysis (1) - Cross-contamination between samples can be avoided by cleaning equipment (1) Soil infiltration: - can be measured by driving a piece of rigid plastic piping/tubing into the ground (1) - at each site the same volume of water should be poured into the tube/pipe (1) - every 30 seconds the level of water should be measured using a ruler and recorded (1) - the time taken for all the water to be fully absorbed should also be recorded (1) Moisture content: - a moisture probe can be inserted into the soil and a direct measurement recorded (1) - soil moisture content is measured by weighing the fresh soil sample, drying the sample, then weighing the dry soil (1) - glass crucibles for each sample will need to be weighed and labelled first (1) and then the same amount of soil needs to be weighed and placed in the glass crucibles (1) - samples will need to be roasted or baked in an oven/laboratory overnight (1) at 100-105°C to ensure moisture evaporates without burning off organic matter (1) - samples should be weighed again as soon as they are removed from the oven to avoid regaining moisture from the air (1) - the weight of the crucible should be subtracted from the sample (1)

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					Organic content: - soil organic content is measured by weighing a dry soil sample, burning the humus in the soil, then weighing the remaining soil (1) - using a tripod and gauze sheet, they should heat the soil sample in a crucible above a full-flame Bunsen burner for 30 minutes to 2 hours, until all the humus has been burnt off (1) - they should then record the weight of the crucible and soil and calculate the percentage of organic content in the soil (1) pH: - a pH probe can be inserted into the soil and a direct measurement recorded (1) 1 cm of soil is placed into a test tube and add 1 cm of barium sulphate to the test tube (1), then add distilled water and indicator solution (1) and shake well to mix the contents thoroughly (1) - it should be allowed to settle before holding the tube next to the colour chart and deciding which pH colour it most closely matches (1) Texture: Jar Method - collect a soil sample, spread out on paper or use a sieve to remove pebbles/roots and any organic matter (1) - fill a clear jar with the soil sample; a quarter to a third of the jar (1) - add water, and shake the jar well and then sit it somewhere for 24-48 hours allowing different components of the soil to settle into layers (1) - a ruler can then be used to measure the height of each layer, and work out the percentage of sand/silt/clay (1) Texture: Ribbon Method - take a small amount of soil, add some water and squeeze it between your thumb and forefinger, forcing it into a ribbon shape (1) - the length of the ribbon determines the nature of the soil eg no ribbon= sandy, long ribbon= clay (1) Any other valid points.

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3.	(a)	(i)	Candidates should describe the changes in plastic waste between 2014 and 2024. Award 1 mark for each valid point.	4	Possible answers may include: • there is an overall increase in the amount of discarded plastic waste between 2014 and 2024 (1) • in 2014 most countries had 0-149 tonnes per day of plastic emissions whereas in 2024 only 5 countries (Japan, South Korea, Taiwan, Timor Leste and Bhutan) had 0-149 tonnes per day of plastic emissions (1) • in 2014 only one country China, had plastic emissions of 1000-1699 tonnes per day but in 2024 there are now 4 countries (Pakistan, Indonesia, Bangladesh, Philippines) in that category • in 2014, no country was in the highest category but in 2024, two countries are with the highest category of plastic emissions – India and China (1) • the most frequent category of plastic emissions has changed from 0-149 in 2014 to 400-999 tonnes per day in 2024(1) • in only 4 countries (Timor Leste, Sri Lanka, Brunei and Bhutan) have plastic emissions per day remained the same 10 years later (1) • in only 3 countries (Japan, Taiwan, and South Korea) have plastic emissions decreased between 2014 and 2024 (1) • Japan has seen a reduction from 400-999 tonnes per day in 2014 to 0-149 tonnes per day in 2024 (1) Any other valid point.

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		(ii)	Candidates should discuss an alternative graphical or map-based technique that could be used to show changes in plastic waste between 2014 and 2024. Credit should be given for a sketch of what the graph might look like. Award 0 marks for naming the technique. Award 1 mark for each valid point.	3	Possible answers may include: Compound Bar Graphs: • two compound bar graphs could be drawn to compare 2014 and 2024 (1) • each bar would be divided into the five categories of plastic waste (1) • the Y-axis would show the number of countries in each plastic waste category (1) • each category should be shown in a different colour to allow comparison. (1) • a colour-coded key would be required to identify each category (1) • it would allow the proportion of each category making up the total to be compared (1) Compound Line Graphs: • a compound line graph could be drawn to show the changes in plastic waste categories between 2014 and 2024 (1) • 2014 and 2024 would be shown on the X-axis (1) and the Y-axis would show the number of countries in each plastic waste category (1) • each of the five categories would be represented by a different colour to allow comparison (1) • a colour-coded key would be required to identify each category (1) • it would make it easier to compare the patterns of change across the five categories (1) Proportional Symbols/Bars: • proportional symbols/bars could be placed over each country to represent the amount of plastic waste produced (1) • the size of each symbol/bar would represent the amount of plastic waste produced (1) • a suitable scale would need to be decided upon eg 1mm = 100 tonnes (1) • separate maps would be produced for 2014 and 2024 to compare changes over time (1) • different colours could be used to distinguish the five plastic waste categories, with a suitable key provided (1)

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					- changes in the distribution of plastic waste can be identified by comparing symbol/bar size between 2014 and 2024, with larger symbols/bars representing more waste (1) Cartograms - the size of each country would be adjusted according to the amount of plastic waste produced rather than its land area (1) - separate cartograms could be drawn for 2014 and 2024 to compare changes over time (1) - countries with larger amounts of plastic waste would appear larger, making patterns and differences easier to identify (1) - a colour-coded key could be used to show the different plastic waste categories (1) - although the shape and size of countries would be distorted, their relative location would still allow spatial patterns to be identified (1) Any other valid point.
	(b)	(i)	Candidates should suggest reasons which could account for the changes in the volume of plastic waste produced between 2014 and 2024. Credit should be given for statistics from atlas only when followed up with explanation. Award 0 mark for a reverse point. Award 1 mark for each valid point.	5	Possible answers may include: - the atlas shows for example that Asia's population will grow from 4 billion in 2010 to 5.15 billion in 2050 (atlas). (1) one reason why most countries have seen an increase in their plastic waste production is due to their likely population growth in 5 years (1) - in the atlas, India had a population growth rate of 1.03% in 2019 (1) India has seen the largest growth in plastic waste because the country may be growing at a faster rate than all the other countries (1) - countries such as Japan may have seen a fall in the amount of plastic waste production due to a stagnant or declining population (1) - China's plastic waste has increased but at a slower rate than India as its population growth may have slowed (1) - tourism in countries like Indonesia eg Bali has led to increase in plastic litter being dropped on beaches (1) - some countries such as Japan and South Korea may have introduced successful reduce, reuse, recycle schemes that have dramatically reduced the volume of plastic waste in 5 years. (1) These countries can afford to invest in the

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					infrastructure required such as recycling bins or collection centres that sort the waste. (1) • laws may also have been introduced such as banning the use of some single use plastics (1) or laws to reduce the use of plastic packaging and the use of alternatives to plastic (1) • the atlas shows that Bangladesh has a very low GNI per capita of only \$1,190 compared to \$38,840 in Japan (1) poorer developing countries such as Bangladesh lack the funds to invest in schemes to tackle plastic waste production as other issues such as health or education are a priority (1) Any other valid point.
		(ii)	Candidates should evaluate the suitability of using standard deviation to investigate changes in the volume of plastic waste Award 1 mark for each valid point.	3	Possible answers may include: • it summarises how closely a set of data is clustered around the mean using a single value (1) • it allows you to compare two sets of data to see which data is more dispersed or clustered around the mean. (1) In this example it tells you that the volume of plastic waste for the 14 countries was more clustered around the mean in 2014 (1) • it is strongly affected by extreme values (1) as squaring gives greater weight to outliers, which can exaggerate the typical spread of data (1) • it gives a more accurate idea of how data is distributed than the range as the range considers just the extreme values (1) • it uses all the values unlike the interquartile range which only considers the middle 50% of values (1) • SD uses interval or ratio data (1) • it assumes a normal distribution which may not be true (1) • when done manually the calculations can be time consuming and prone to error especially if there is a large set of data. (1) There are two sets of data to compare here which is even more time consuming (1) Any other valid point.

Question			General marking instructions for this type of question	Max mark	Marking instructions for this question
	(c)		Candidates should explain the negative impacts of plastic waste on Kerala's people and environment. Award 1 mark for each valid point.	5	Possible answers may include: - the burning of plastic waste releases toxic chemicals and gases into the air which leads to health conditions such as respiratory problems (1) - the burying of plastic waste in landfill sites will contribute to the state's greenhouse gas emissions (1) - chemicals released from degrading plastic will affect the quality of drinking water. (1) Particles of plastic will contaminate water supplies (1) - Kerala's network of rivers, canals and lakes will contain plastic which will be consumed by fish or entangle species and numbers will decline (1) - inland waterways lead to the Malabar Coast and Arabian Sea which will also be polluted so marine species will also be affected. (1) This will affect the food chain as other species such as sea birds consume plastic too. (1) Fish stocks will decline affecting the livelihoods of people reliant on the fishing industry (1) - plastic waste could block drains leading to flooding in urban areas such as Kochi (1) - plastic waste could block sewage systems leading to the spread of diseases such as cholera. (1) According to the atlas, Kerala is densely populated with up to 1000 people per square km-so disease would spread rapidly (1) - plastic waste being dumped on land could increase the threat of malaria as it creates stagnant water sources (1) - visible plastic pollution such as on beaches, may deter tourists from visiting and the state will lose a valuable source of income (1) - plastic waste will contaminate soil and affect crop yields such as rice and wheat (1) - Kerala's food supply and potential export trade will suffer (1) - the Keralan government will have to spend a considerable amount of its budget on waste collection and recycling schemes (1) Laws will be required to ban single use plastics eg which, will be costly and difficult to enforce (1) Any other valid point.

[END OF MARKING INSTRUCTIONS]