

Past-paper walk-through

Infrastructure ■ 6.7

eXercise

Questions in this set

- 2025 Set 2 Q1
- 2024 Set 2 Q2
- 2023 Set 2 Q1

Reading the mark scheme

- **B1** a mark that stands on its own – the point is either made or not.
- **M1** a *method* mark: the right approach, even if the number is wrong.
- **A1** an *answer* mark, and it usually needs its M mark first.
- **C1** a working mark on the way to the answer.
- **//** separates answers the examiner accepts equally.
- **ecf** = error carried forward: a later part is marked on your own earlier answer.
- **owtte** = “or words to that effect” – the wording need not match.

Question 1

2025 Set 2 ■ Q1

Migration contributes to significant population growth and change in urban landscapes. As populations increase, urban areas face economic, social, and environmental challenges.

- (a) Describe one type of voluntary migration.
 - (b) Explain how migration may affect a city's economy.
 - (c) Describe one type of housing discrimination that may occur in urban areas.
 - (d) Explain how a city's infrastructure affects society.
 - (e) Describe one challenge to sustainability in urban areas.
 - (f) Explain how urban design initiatives are intended to affect cities.
 - (g) Explain why urban design initiatives may be criticized.
- 4 Food Exports Between Country X and Country Y

Solution 1

(a) Mark scheme

- - Transnational (external) migration is the movement of people across international borders to another country.
- - Transhumance is a seasonal or cyclical movement of people and livestock along traditional migratory routes, trade routes, and/or pathways between different climate or ecological zones.
- - Internal migration is the movement of people within the borders of their home country.
- - Chain migration is the movement of people who have followed other people (e.g., family members) to a particular location.

Solution 1

- - Step migration is the movement of people along a set or series of intermediate stops or stages toward a final destination.
- - Rural-to-urban migration and/or the movement of pastoral, country, farming, agrarian, mining, fishing, and/or forest peoples to cities or metropolitan areas.
- - Labor migration is the movement of people for the purpose of work, wages, education opportunities, employment opportunities (e.g., guest workers), and/or technological skills (e.g., brain drain).
- - Family migration is the movement of people to connect or reunify family members who have been separated.

Solution 1

(b) Mark scheme

- - Migrants may contribute to economic development by expanding the size, capabilities, and/or productivity of a city's labor force.
- - Migrants may start new businesses, expand existing businesses, and/or invest in existing businesses, resulting in local economic development, growth, and/or multiplier effects.
- - Migrants may increase a city's tax base (e.g., sales, income, property taxes) used to fund governments, resulting in additional funds for infrastructure (e.g., transportation, sanitation) and/or social programs (e.g., education, health care).

Solution 1

- - Migrants may purchase, rent, or invest in housing or commercial space, resulting in a more valuable real estate market.
- - Migrants may contribute to the ethnic or cultural makeup of the city, resulting in a more diverse workforce, improved availability of goods or services, or ethnic neighborhoods that develop new business (e.g., food, tourism).
- - Migrants moving away from a city may reduce the size and capabilities of that city's economy, reduce the size of its labor force, decrease the local tax base, and/or decrease local investment in business, housing, or real estate.
- - Governments may allocate funding to services for migrants (e.g., health care, education).

Solution 1

(c) Mark scheme

- - Redlining is a discriminatory practice in which providers (e.g., lenders, insurers) deny services or impose unfair terms on people in specific neighborhoods.
- - Blockbusting is a discriminatory housing practice in which realtors persuade homeowners to sell their homes cheaply because people of a specific race or ethnicity of people are moving to the neighborhood.
- - Urban areas may lack affordable housing, leaving lower-income residents with limited housing options and/or potentially leading to de facto segregation (e.g., zoning rules, regional planning initiatives, urban design initiatives).

Solution 1

(d) Mark scheme

- - Patterns of social development and/or societies are affected by a city's infrastructure (e.g., transportation, communications, energy, housing, industry) because the location and/or quality of infrastructure influence quality of life (e.g., access to health care, levels of education, quality of life, standards of living).
- - High-quality city infrastructure (e.g., housing, transportation, communications, schools, commercial buildings) may improve residents' quality of life by improving access to goods, services, and/or places of employment.
- - High-quality city infrastructure (e.g., public utilities, health care) may improve residents' quality of life by improving public health and sanitation.

Solution 1

- - Insufficient city infrastructure may inhibit social development by creating challenges such as lack of housing, lack of public utilities, pollution, and/or inadequate sanitation.

Solution 1

(e) Mark scheme

- - Expanding areas of suburban sprawl, insufficient sanitation systems, climate change causing local environmental effects, pollution affecting air and/or water, the large ecological footprint of cities, and/or inefficient energy use.
- - Any environmental and/or economic condition that may limit the long-term or continuous use of a resource or type of land use.
- - Rapid urbanization can increase the demand for resources (e.g., water, food, energy), strain infrastructure, reduce green spaces, lead to housing shortages, and/or proliferate informal settlements.

Solution 1

- - Public health challenges (e.g., sanitation, the availability of clean water) can challenge urban sustainability.
- - Aging or inadequate infrastructure can challenge urban sustainability.
- - Ineffective urban governance or planning may challenge urban sustainability.

Solution 1

(f) Mark scheme

- - The initiatives (e.g., zoning practices, mixed land use, walkability, transportation-oriented development, smart-growth policies, New Urbanism) are intended to reduce sprawl, improve walkability, accessibility, and/or transportation.
- - The initiatives are intended to improve or diversify housing options, improve livability, and/or promote sustainable options (e.g., land or resource use, combined living and workspace).
- - Socially, urban design initiatives are intended to improve public spaces (e.g., create parks, plazas, recreational areas), boost inclusivity (e.g., ensure accessibility), and/or enhance public health (e.g., reduce pollution) in cities.

Solution 1

- - Environmentally, implementing green building materials, renewable energy sources, and/or urban greenery can minimize environmental impact in cities.
- - Economically, by improving infrastructure (e.g., transportation, housing, public services, open space), urban planning, and/or zoning, cities can attract investment, create jobs, foster sustainable communities, and/or improve accessibility or mobility.
- - Culturally, urban design initiatives can incorporate the preservation of historical sites or cultural landmarks, design spaces for public art, cultural events, and/or community gatherings, fostering a sense of place, identity, and/or community.

Solution 1

(g) Mark scheme

- - Criticism might arise because initiatives may negatively affect the local population through increased housing costs (e.g., the cost of new construction, land speculation) and/or by resulting in possible de facto segregation (e.g., limited low-income housing options).
- - Urban design initiatives may reduce or eliminate land that could be used for housing development and/or for the development of institutions (e.g., schools, health care) or amenities (e.g., parks, play areas).
- - Urban design initiatives may attract outside visitors or vehicles that increase traffic or congestion or increase the cost of goods and services in the local area.

Solution 1

- - Urban design initiatives could be expensive to implement and/or could cost the city money that could be used in other ways.
- - Urban design initiatives may result in the potential loss of historical or place character.
- - Urban design initiatives may be seen as ineffective due to cost, lack of impact on the local economy, and/or lack of improvement in quality of life.

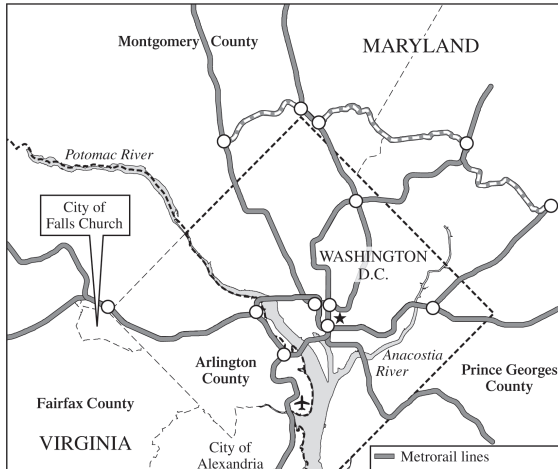
Question 2

2024 Set 2 ■ Q2

The map shows political jurisdictions and Metrorail, a subway system in the Washington, D.C., metropolitan area. The city and county jurisdictions shown on the map operate the Washington Metropolitan Area Transit Authority (WMATA), which runs Metrorail.

(a) Identify ONE type of boundary shown on the map.

Question 2



Question 2



Question 2

2024 Set 2 ■ Q2

The map shows political jurisdictions and Metrorail, a subway system in the Washington, D.C., metropolitan area. The city and county jurisdictions shown on the map operate the Washington Metropolitan Area Transit Authority (WMATA), which runs Metrorail.

(b) Describe ONE site characteristic of Washington, D.C., shown on the map.

Question 2

2024 Set 2 ■ Q2

The map shows political jurisdictions and Metrorail, a subway system in the Washington, D.C., metropolitan area. The city and county jurisdictions shown on the map operate the Washington Metropolitan Area Transit Authority (WMATA), which runs Metrorail.

(c) Explain how political power is spatially distributed within a federal system of governance.

Question 2

2024 Set 2 ■ Q2

The map shows political jurisdictions and Metrorail, a subway system in the Washington, D.C., metropolitan area. The city and county jurisdictions shown on the map operate the Washington Metropolitan Area Transit Authority (WMATA), which runs Metrorail.

(d) Explain ONE way suburban sprawl is likely to negatively affect environmental sustainability in metropolitan areas.

Question 2

2024 Set 2 ■ Q2

The map shows political jurisdictions and Metrorail, a subway system in the Washington, D.C., metropolitan area. The city and county jurisdictions shown on the map operate the Washington Metropolitan Area Transit Authority (WMATA), which runs Metrorail.

(e) Describe ONE way transportation-oriented development, such as expanding a Metrorail line, may promote urban sustainability.

Question 2

2024 Set 2 ■ Q2

The map shows political jurisdictions and Metrorail, a subway system in the Washington, D.C., metropolitan area. The city and county jurisdictions shown on the map operate the Washington Metropolitan Area Transit Authority (WMATA), which runs Metrorail.

(f) Explain how regional transportation networks led to the development of edge cities.

Question 2

2024 Set 2 ■ Q2

The map shows political jurisdictions and Metrorail, a subway system in the Washington, D.C., metropolitan area. The city and county jurisdictions shown on the map operate the Washington Metropolitan Area Transit Authority (WMATA), which runs Metrorail.

(g) Explain how the geographic fragmentation of local governments could present a challenge to the Washington, D.C., metropolitan area's ability to construct a new Metrorail line. and fill in the appropriate circle at the top of each page to indicate the question number.

Demographic Transition Model Demographic Data for Selected Countries, 2019

Country	Birth Rate	Death Rate	Population Over Age 65
Croatia	21%		
Estonia	20%		
Germany	22%		
Greece	22%		
Japan	28%		
Portugal	23%		
Romania	19%		

Source: World Bank

Solution 2

(a) Mark scheme

- - Political boundary (e.g., state, district, county)
- - Physical or natural boundary (e.g., the Potomac River)
- - Geometric boundary (e.g., District of Columbia, Arlington County)
- - Relict boundary (e.g., Arlington County was once part of the District of Columbia)
- - Superimposed boundary (e.g., District of Columbia)
- - Consequent boundary (e.g., Potomac River between the District of Columbia and Virginia)

Solution 2

- - Antecedent boundary (e.g., colonial-era boundaries)
- - Subsequent boundary (e.g., District of Columbia carved out of already existing Maryland and/or Virginia)

Solution 2

(b)

Mark scheme

- - Washington, D.C., is located along the Potomac River and/or the Anacostia River.
- - Washington, D.C., is at the confluence or intersection of the Potomac River and the Anacostia River.
- - Washington, D.C., is at the intersection of the coastal plain and the Piedmont (foothills) or on the fall line.
- - Washington, D.C., is located in an area with a tidal estuary, a peninsula, freshwater streams, wetlands, fertile soils, low-lying areas, and/or tidal flats.

Solution 2

(c)

Mark scheme

- - Power is dispersed or shared between the central, sub-national, and/or local governments.
- - Most federal systems have capital districts (e.g., Washington, D.C., Brasília) or locations (e.g., courts, military bases) where some government functions are centralized and also sub-national (state, provincial, departmental) capitals where local or regional political functions are dispersed.

Solution 2

(d) Mark scheme

- - Development related to sprawl (e.g., construction, transportation, utilities) can lead to increased air or water pollution.
- - Land cover change related to sprawl (e.g., deforestation) can lead to the loss or fragmentation of habitats, water pollution, and/or decreased biodiversity.
- - Expansion of transportation networks related to sprawl can lead to more pollution and/or warmer climates (e.g., traffic, congestion, urban heat islands, inefficient energy use).
- - Development related to sprawl can inhibit the use of land for local food production, open space, conservation, greenbelts, or preservation efforts.

Solution 2

(e) Mark scheme

- - By promoting walkability, livability, more efficient land use (e.g., fewer roadways, reduction in impermeable surfaces), and/or reductions in pollution.
- - By reducing the number of cars, resulting in decreased air and/or noise pollution.
- - By reducing the ecological footprint (e.g., reduced carbon footprint, reduced energy use) of the city.
- - Heavily trafficked and/or accessible transit stops may become places of mixed-use development.
- - Additional transit stops can reduce commuting distances or travel times to work and/or to other service locations.

Solution 2

- - Commuting can be more economically sustainable than car travel (e.g., cost of car ownership, fuel, maintenance, insurance, parking).

Solution 2

(f)

Mark scheme

- - Transportation enabled commercial land use to decentralize (move away) from city centers.
- - Edge cities formed near major highway intersections or transit stations because those developments needed to be accessible to workers and/or consumers.
- - By providing access to services or office locations for the people who live, work, and/or shop there.
- - Transportation provides access to lower-cost land away from the city center (bid rent theory).

Solution 2

(g) Mark scheme

- - Construction could be challenging because it would involve multiple governments to fund, plan, zone, and/or cooperate.
- - Local governments could disagree with the federal government about where to construct a new Metro line.
- - Construction could be challenging because parts of the new Metro line might not fall clearly under the jurisdiction of a specific government.
- - Having many competing ideas or authorities could make the planning process inefficient and/or make it difficult to determine accountability.

Solution 2

- - Local governments could disagree on how to share the costs of construction and/or operational costs of the rail system.
- - Local governments could disagree on the location of new stations because development around new Metro stations is a source of tax revenue and/or economic development.

Question 1

2023 Set 2 ■ Q1

AP[®] Human Geography 2023 Free-Response Questions

HUMAN GEOGRAPHY

SECTION II

Time—1 hour and 15 minutes

3 Questions

Directions: You have 1 hour and 15 minutes to answer all three of the following questions. It is recommended that you spend approximately one-third of your time (25 minutes) on each question. It is suggested that you take up to 5 minutes of this time to plan and outline each answer. You may plan your answers in this orange booklet, but no credit will be given for anything written in this booklet. **You will only earn credit for what you write in the separate Free Response booklet.**

Question 1

1. Political geographers analyze territoriality and sovereignty at a variety of scales, including regional, state, substate regional, and local.
 - A. Define the concept of territoriality in terms of political geography.
 - B. Describe the concept of sovereignty as it relates to the state.
 - C. Compare ONE difference in territorial organization between the governments of unitary states and the governments of federal states.
 - D. Recently, the United Kingdom decided to withdraw from the European Union. Explain ONE possible reason why sovereignty would play a role in the United Kingdom's decision to withdraw from the European Union.
 - E. During the United Kingdom's withdrawal from the European Union, some people in Scotland proposed independence from the United Kingdom. Explain ONE possible reason why territoriality would play a role in the devolution of a state.
 - F. Local governments often divide cities into representative electoral districts. Explain how the process of redrawing district boundary lines may affect election results within a city.

Question 1

- G. Explain why neighboring local governments may face challenges in providing transportation services to residents of a rapidly growing metropolitan area.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

Question 1

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GO ON TO THE NEXT PAGE.

Solution 1

(a)

Mark scheme

- - Territoriality is the connection of people, their culture, and their economic systems to where they live (can apply to multiple scales).
- - Territoriality is the process by which a set of political units with fixed distinct boundaries are created, expanded, annexed, and/or defended.
- - Territoriality is the process by which a land area (or land and water) is established under a jurisdiction (e.g., an established or recognized system of governance, or administrative control).

Solution 1

(b) Mark scheme

- - Sovereign states have the right to control what is inside their borders without interference from outside states and entities.
- - Sovereign states are recognized by the international community and other foreign entities.
- - Sovereign states have the right to defend their borders against invasion by other states.
- - Sovereign states have the right to close the borders to immigration.
- - Sovereign states have the right to regulate international trade.

Solution 1

- - Sovereign states have the right to establish their own government by establishing a constitution and/or system of political representation.
- - Sovereign states have the right to enact laws or policies (e.g., the criminal justice code, civil legal code, land ownership system, and/or natural resource management system).
- - Sovereign states have the right to establish alliances and recognize foreign states or entities, and/or establish diplomatic relations and embassies in other countries.
- - Sovereign states have the right to establish policies (e.g., taxation, appropriations).

Solution 1

(c) Mark scheme

- - Unitary states tend to have a more top-down form of governance, while federal states have more locally based power centers.
- - Unitary states have a single government that expresses power over the entire territory, whereas federal states divide power among regional governments that control a limited portion of territory.
- - Unitary states have a centralized system of administration (e.g., law enforcement, natural resource management, infrastructure development), whereas federal states have more dispersed power centers.

Solution 1

- - Unitary states tend to have a single system of territorial control, whereas federal states may have multiple types of internal territorial systems based upon each region's culture (e.g., different land survey systems, differing legal systems, different ethnicities).

Solution 1

(d) Mark scheme

- - The United Kingdom (UK) left the European Union (EU) because its leaders believed the UK had surrendered too much sovereignty to the supranational government of the EU.
- - The free movement of people among the EU member states had increased immigration to the UK resulting in political pressure to limit immigration to the UK, in opposition to existing EU policies.
- - The leaders of the UK believed they could form more advantageous trade agreements by working independently from the EU.

Solution 1

- - The UK participated in the EU economic policies but never joined the eurozone, maintaining its own currency, the British pound, as a symbol of British identity, and/or source of economic stability or superiority in value as compared to the euro.
- - The UK is physically separated from Europe, with a long history of world trade and a strong sense of itself as a world power, and this translated into a weaker sense of being part of/belonging to the EU.

Solution 1

(e) Mark scheme

- - People in one region within a state have a connection to the land of the ethnic group, culture, and/or regional identity and believe that they should have autonomy over the region or the right to secede from the state.
- - People in one region within a state believe that the leaders in the government or people in other parts of the country (e.g., core or capital) do not respect the people of the region's long history of culture and attachment to the land.
- - People in one region within a state believe that the economic policies of the state favor a majority group or another group in power at the expense of their region.

Solution 1

- - Many Scots believe that Scotland should have control of foreign policy and defense agreements.
- - Many Scots believe that Scotland is both its own country and a part of Europe (or the European Union) at the same time.
- - Many Scots believe that trade agreements among EU members will be better for the economy of Scotland if it rejoins the EU.
- - Many political leaders desire Scottish independence so that Scotland may have an economy and/or monetary system separate from the rest of the UK.
- - Some in Scotland desire an independent state (separate from England, Wales, and Northern Ireland) that still has the British monarch as the titular head of state.

Solution 1

(f) Mark scheme

- - Redrawing district boundaries may shift the balance of political power among or favor certain political parties, candidates, and/or representative groups (intentionally or unintentionally).
- - If the boundaries are drawn in a manner that divides a voting group among several districts, the power of the group is diminished (cracking to decrease power).
- - If the boundaries are drawn such that a voting group is concentrated in one district, its political power is increased (packing to increase power) or favors a group that has a higher voter turnout (stacking to increase power).

Solution 1

- - If the boundaries are drawn in such a way that a voting group is so overwhelmingly concentrated in one district, then the group may lose the ability to influence power in any surrounding area (packing to decrease power).
- - Districts are often redrawn as population changes over time and new lines may create new districts that are different than before, which may mean voters recently added to these districts may be less familiar with issues and candidates in these districts.

Solution 1

(g) Mark scheme

- - Local governments that are fragmented, divided, and/or dispersed may find it difficult to agree on transportation services and/or projects.
- - Local governments may be completely independent of each other and may not have an official regional or metropolitan forum or interface in which to interact and/or plan for transportation needs.
- - Local governments may compete for transportation funding resources from state, province, national, federal, or supranational government sources and may see neighboring governments as opponents and/or competitors for resources.

Solution 1

- - Local competitiveness (e.g., local pride, rivalries, or racial, ethnic, and/or economic differences) between neighboring communities may hinder effective cooperation between local governments on transportation planning.
- - Disparities in wealth between neighboring local governments dealing with a high volume of commuters coming from other local governments may not have the resources needed to meet the demand for transit infrastructure and/or services.
- - Suburban sprawl and the establishment of separate municipalities on the edge of the metropolitan area may increase demand, pressure, and/or traffic flow through communities closer to the city center and/or along major transit corridors.