

Question 3: Two Stimuli**7 points**

A (Point 1)	Identify the scale of analysis used for Finland’s political divisions in Map 2. Acceptable identification: A1. Local scale (e.g., city, town, rural municipality) or subnational scale.	1 point
B (Point 2)	Define geometric boundaries as shown in Map 1. Examples of acceptable responses may include the following: - B1. Border lines on a map (two-dimensional plane) that are straight, angled, and/or curved to form a geometric shape (e.g., straight line, square, rectangle, circle, other polygons). - B2. A boundary or border drawn based on lines of latitude and longitude, a grid system, and/or a township and range system (baselines and meridians). - B3. Boundary lines drawn without regard to the physical or cultural landscape.	1 point
C (Point 3)	Describe one function of internal boundaries. Examples of acceptable responses may include the following: - C1. Internal boundaries define the limits of sovereignty or government control between one subnational region and another. - C2. Internal boundaries delimit or unify different types of subnational regions (e.g., voting districts, states, provinces, territories, special administrative regions, autonomous zones). - C3. Internal boundaries can unify or separate distinct ethnic, cultural, or national groups. - C4. Internal boundaries can delineate, divide, or fragment zones of public infrastructure and/or local government (e.g., water districts, school districts, voting districts). - C5. Internal boundaries can reflect, preserve, or reduce cultural, linguistic, or historical identities. - C6. Internal boundaries can prevent, resolve, or exacerbate conflicts. - C7. Internal boundaries can facilitate or hinder the collection or analysis of data. - C8. Internal boundaries can facilitate or hinder the management, protection, or distribution of natural resources or ecosystems.	1 point

D (Point 4)	Explain how the spatial organization of a country such as Canada is affected by a federal system of governance. Examples of acceptable responses may include the following: • D1. Federal systems of governance affect the spatial organization of a country by creating locally based, dispersed power centers (e.g., subnational state or provincial capitals). • D2. Countries with a federal system of governance are typically organized into subnational units (e.g., autonomous regions, semiautonomous regions) and/or have regional capitals that may help reduce centrifugal forces and/or limit ethnic separatism. • D3. Federal systems tend to divide large amounts of land area into subnational divisions that may be difficult to govern from a centralized or single capital. • D4. Federal systems tend to divide multicultural countries into subnational divisions based on cultural differences (e.g., ethnic, religious, and/or linguistic diversity) that may be difficult to govern from a centralized or single capital.	1 point
E (Point 5)	Explain how the supranational organization shown in Map 2 may limit the actions of Finland as a member state. Examples of acceptable responses may include the following: • E1. The EU may enact international laws or policies that limit the economic actions of Finland or other member states (e.g., reducing or eliminating trade barriers, introducing a common currency, regulating industry). • E2. The EU may implement international laws or policies that limit the political actions of Finland or other member states (e.g., requiring common border policies, observing elections, sharing a common foreign policy). • E3. By joining the EU, Finland has agreed to allow the EU government to make laws and regulations on behalf of Finland and the other member states.	1 point
F (Point 6)	Describe one characteristic of a cultural landscape that may reflect cultural beliefs and identities. Examples of acceptable responses may include the following: • F1. Art, music, toponyms, clothing, architecture, and/or evidence of sequent occupancy may indicate elements of a culture or cultures. • F2. Religion, language, social institutions, and/or systems of governance may be based on a culture or cultures. • F3. Land use, land survey patterns, agriculture, resource use (e.g., hunting, fishing, crafts), and/or trade may indicate the practices of a culture or cultures. • F4. Foods, social interactions, holidays, and/or festivals are based on or have elements of a culture or cultures. • F5. Attitudes towards ethnicity or gender (e.g., the role of women in the workforce) may help shape the use of space in a given society.	1 point

G (Point 7)	Explain how communication technologies may affect the cultural patterns of indigenous languages.	1 point
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Examples of acceptable responses may include the following:

- G1. Communication technologies (e.g., the Internet) may encourage members of indigenous communities to adopt more commonly used languages (e.g., English), resulting in indigenous language loss.
 - G2. Language loss may occur due to cultural convergence, which is accelerated by the use of communication technologies.
 - G3. Communication technologies may increase the availability of indigenous language resources (e.g., via websites, apps, social media), resulting in language preservation.
 - G4. Communication technologies may be used to increase awareness of indigenous identity issues, which may result in language preservation.
 - G5. Limited access or cultural resistance (e.g., reliance on oral tradition) to communication technologies can restrict or prevent significant changes in the cultural patterns of indigenous languages.
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Question 3: Two Stimuli**7 points**

(A) Describe the spatial pattern of the companies and institutions shown in the inset map. 1 point

Accept one of the following:

- A1. Agglomeration of similar economic activities.
- A2. Cluster or clustering of similar economic activities.
- A3. The concentration of similar activities along transportation routes (e.g., rivers, arterial roads).
- A4. There is a concentration of similar economic activities within a metropolitan area in Massachusetts.

(B) Describe the concept of a growth pole. 1 point

Accept one of the following:

- B1. A location where research, development, and/or innovation (e.g., new product or process) generate new products and/or services.
 - B2. An institution (e.g., university, hospital, laboratory) where scientific discoveries, inventions, and/or innovations create new economic opportunities.
 - B3. An area where new businesses start up and/or businesses locate to participate in the emerging market and/or attract investment for a new product and/or service.
 - B4. An area where new businesses start up and/or businesses locate to access a specifically skilled or educated pool of labor.
 - B5. An area designated by a government to facilitate economic activity for a specific purpose.
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(C) Explain ONE way education infrastructure affects a region's potential for high-technology development. 1 point

Accept one of the following:

- C1. Graduates of educational institutions, who remain in the region throughout their careers, can promote regional economic development, create innovative products or services, and/or create a source of wealth for investment in the region's high-technology businesses.
- C2. Educational institutions can develop a labor force with specialized capabilities that make an area better suited to attract high-technology businesses and/or investors from outside of the region to open new facilities and/or move existing facilities or headquarters into the region.
- C3. Educational institutions can sponsor research for new high-technology products and/or services that can be put into production or operation, thus creating new value, investment, and/or employment for the region's economy.
- C4. Public investment in technical or specialized worker training, businesses, infrastructure, and/or equipment may divert funds away from investment in other community and social programs that support economic development.
- C5. Lack of educational infrastructure can negatively affect a region's potential for high-technology development because there may not be a highly educated workforce, a specialized labor force, and/or sponsored research for high-technology products or services.

(D) Explain how the pattern shown on the map resembles the galactic city model. 1 point

Accept one of the following:

- D1. The region has multiple development centers (e.g., edge cities, central business districts [CBDs], suburban CBDs), which are based on a specialized product or service.
 - D2. The pattern of business development is decentralized or spread across the region in different locations.
 - D3. The region has a circumferential, circular belt, or radial highway pattern associated with a galactic city's transportation landscape.
 - D4. The region contains several highway intersections that serve as nodes for new business districts, central business districts, or development centers.
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(E) Explain ONE way local economic changes may be a result of deindustrialization.

1 point

Accept one of the following:

- E1. Deindustrialization may cause the local economy to shift from a manufacturing or industry-based economy (secondary sector) to a service and/or technology-based economy (tertiary, quaternary, or quinary sector).
 - E2. Outsourcing of manufacturing or industrial jobs to other countries can lead to a decline in local employment levels and/or an increase in the percentage of the workforce that is unemployed or receiving unemployment benefits.
 - E3. Increased unemployment in the central business district (CBD), declining investment, and/or declining real estate values may result from the loss of manufacturing firms, jobs, and/or services that were once supported by the former industrial economy.
 - E4. Increases in the local use of post-Fordist methods of production (e.g., highly specialized firms, just-in-time delivery supply chains, flexible production methods) by manufacturing firms can indicate a response to deindustrialization to make industrial production more efficient.
 - E5. Gross national income (GNI) per capita in the area may decrease as local people lose employment in manufacturing and/or are unable to find similar-paying jobs in another economic sector.
 - E6. Unemployment rates or underemployment may increase as local people lose employment in manufacturing and/or are unable to find similar-paying jobs in another economic sector.
 - E7. Cities and communities may see decreased tax revenues due to higher unemployment and/or a decrease in population as people move away to search for jobs elsewhere (e.g., backwash effects, migration).
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- (F) Explain how the products and services listed in the table demonstrate that this economy has moved into the quaternary sector. 1 point**

Accept one of the following:

- F1. The high-technology nature of the products and services listed demonstrates that the economy has moved into the quaternary sector.
- F2. The products and services rely on the knowledge and/or intellectual capabilities of the firms, institutions, and/or workforce that develop these advanced technologies.
- F3. The products and services are the outcomes of a highly educated, specialized, and/or creative class of employees who develop innovative solutions to consumer needs.
- F4. The products and services are dependent on the use of information technology for firms, institutions, and/or the workforce to be more productive, efficient, and/or cost-effective.

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- (G) The map focuses on a regional scale. Explain a possible limitation of drawing country scale conclusions from a regional scale map. 1 point**

Accept one of the following:

- G1. Attempts to analyze research data from one scale of analysis to make claims about another scale of analysis may be inaccurate due to the change in scale's effect on spatial analysis.
- G2. Making research assumptions from map data at one scale of analysis to make claims about another scale of analysis may result in an incorrect calculation or an ecological fallacy due to the change in scale.
- G3. The region can be specialized in a sector or type of production that is different from the economic sectors or production types found in other regions of the country.
- G4. The region can have a long and continuing tradition of valuable or productive sectors that are very different from the changing mix of economic sectors that characterize the country's economy.

Total for question 3: 7 points