

Question 3: Two Stimuli**7 points**

A (Point 1)	Identify an example of a culture trait. Acceptable identification: A1. Culture traits include such things as food preferences, art, architecture, language, religion, music, clothing, media, technology, and/or land use.	1 point
B (Point 2)	Describe the spatial pattern of cow's milk production in Africa, shown in Map 1. Examples of acceptable responses may include the following: - B1. Medium and/or high amounts of cow's milk production are concentrated or clustered in the north, east, and/or south. - B2. Low amounts of cow's milk production are concentrated or clustered in west, central, and/or southwest Africa.	1 point
C (Point 3)	Based on Map 1 and Map 2, compare the spatial patterns of cow's milk production and pork production in Asia. (Response must include both maps in the comparison.) Examples of acceptable responses may include the following: - C1. Map 1 shows that cow's milk is produced in most Asian countries at high or medium volumes, whereas Map 2 shows that pork is produced at high or medium volumes in East Asia and/or parts of Southeast Asia, or in low volumes in South and/or Southwest Asia. - C2. Cow's milk is produced in most Asian countries, whereas pork is not produced in regions with large Islamic populations, such as the Middle East (Southwest Asia), Central Asia, South Asia, and/or parts of Southeast Asia. - C3. Cow's milk production and pork production are low in insular Southeast Asia (e.g., Indonesia, Malaysia, East Timor, Papua New Guinea).	1 point

D (Point 4)	Describe one environmental effect of agricultural land use such as commercial animal farms. Examples of acceptable responses may include the following: - D1. Environmental effects of agriculture land use include pollution (e.g., air, water, waste), land cover change (e.g., soil erosion), nutrient depletion, desertification, and/or soil salinization. - D2. The reduction of water supplies for agricultural purposes, such as depleting reservoirs, lowering the local water table, and/or draining aquifers. - D3. The reduction of biodiversity from changes in land cover (e.g., deforestation, grassification, feed-crop monoculture). - D4. The spread of disease between domestic and wild animal populations or between animal populations and humans. - D5. Climate change and/or global warming because such farms produce greenhouse gases (e.g., carbon dioxide, methane, water vapor). - D6. Agricultural land use can promote the survival or the growth of environmentally beneficial species (e.g., pollinators, working animals, heirloom varieties).	1 point
E (Point 5)	Explain how the globalization of agriculture may affect local culture traits. Examples of acceptable responses may include the following: - E1. Globalization of agriculture and/or the global system of agriculture may lead to changes in food preferences. - E2. Globalization may lead to people preferring to eat foods imported from other countries that were not previously available to them (e.g., tropical fruits in temperate climates). - E3. Globalization may lead to the availability of less expensive imported foods that are substituted for more expensive local foods (e.g., imported wheat replacing locally grown corn). - E4. Consumers may resist the globalization of the food supply and in response buy domestically produced food, local food, and/or purchase food from community-supported agriculture. - E5. Globalization of agriculture may lead to a reduction in the number of small family farms, which can affect local cultural traits (e.g., settlement patterns by prompting rural-to-urban migration, social roles by having fewer people working in agriculture). - E6. Globalization may lead to changes in agricultural land use or agricultural production methods through the implementation of new technologies, architecture, and/or equipment (e.g., data analytics, drones, vertical farming, autonomous tractors), affecting local culture traits (e.g., crops, farming practices).	1 point

F (Point 6)	Explain why regions of agricultural production may become interdependent. Examples of acceptable responses may include the following: - F1. Some regions and/or countries have become highly dependent on one or more export commodities, which causes different regions to depend on one another for specific agricultural commodities. - F2. Regions of agricultural production are connected through global food distribution networks that are affected by political relationships, infrastructure, and/or patterns of world trade. - F3. Global patterns of food-processing facilities and markets, economies of scale, distribution systems, and government policies all contribute to greater interdependence among agricultural production regions. - F4. Countries may develop comparative advantages, complementarity, specialty crops, and/or consumer markets that establish trade relationships and increase interdependence between two or more countries. - F5. Countries in a region may form trade relationships that result in increased trade in farm products (e.g., EU, ASEAN, MERCOSUR).	1 point
G (Point 7)	Explain how domesticated animals such as pigs spatially diffused to create the spatial pattern shown on Map 2. Examples of acceptable responses may include the following: - G1. Domesticated animals such as pigs diffused from their hearths of domestication through relocation diffusion (e.g., settlers bringing animals to new areas). - G2. Domesticated animals such as pigs diffused from their hearths of domestication through the Columbian Exchange. - G3. International trade, imperialism, and/or colonization introduced domesticated animals such as pigs that were transported to other regions of the world. - G4. Domesticated animals such as pigs spread through migration or expansion diffusion, altering food preferences and/or increasing demand for diverse animal products domestically and/or internationally. - G5. Domesticated animals such as pigs spread to areas where consumption of these animals was culturally acceptable and/or did not spread to areas where consumption of such animals was culturally unacceptable.	1 point

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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 Explain how the spatial organization of a country such as Canada is affected by a federal system of governance. **1 point**
(Point 4)

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.

E Explain how the supranational organization shown in Map 2 may limit the actions of Finland as a member state. **1 point**
(Point 5)

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.

F Describe one characteristic of a cultural landscape that may reflect cultural beliefs and identities. **1 point**
(Point 6)

Examples of acceptable responses may include the following:

- F1. Art, music, toponyms, clothing, architecture, and/or evidence of sequent occupance 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.

G Explain how communication technologies may affect the cultural patterns of indigenous languages. **1 point**
(Point 7)

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.

Question 2: One Stimulus**7 points****(A) Describe the concept of an early hearth of domestication.****1 point**

Accept one of the following:

- A1. A location where new practices develop and/or from which new practices spread.
- A2. A location where a particular type of plant or animal was first domesticated.
- A3. Locations where early civilizations domesticated plants or animals (e.g., Fertile Crescent, Indus River Valley, Southeast Asia, China, Andean Highlands, Amazonia, and/or Central America).
- A4. An ancient civilization whose farmers converted wild plants or animals into farmable and/or domesticated varieties over time.
- A5. A region (e.g., river valley) where a common wild plant or animal was cultivated into a farmable variant through selective breeding.

(B) Identify the crop listed in the table that has diffused the least from its hearth of domestication to the countries listed in the table.**1 point**

Accept the following:

- B1. Yams diffused the least.

(C) Explain how food preferences can be a culture trait.**1 point**

Accept one of the following:

- C1. Many foods have distinct characteristics (e.g., ingredients, preparations) that are indicative of a specific culture group.
- C2. Many culture groups identify with one or more national dishes that represent the typical food culture of a society.
- C3. Many foods contain an ingredient or crop that is local to the region inhabited by a culture group.
- C4. Many foods are part of a way of life, and/or are forbidden for a group of people, as represented in the belief systems, religion, tools, material goods (artifacts), calendars, and/or holidays of a culture.

(D) Explain how the Columbian Exchange contributed to a crop's diffusion beyond its hearth of domestication.**1 point**

Accept one of the following:

- D1. The Columbian Exchange led to the relocation or movement of crops from one part of the world to another part of the world through conquest, ecological imperialism, colonization processes, and/or along trade routes.
- D2. The Columbian Exchange was a process by which crops moved from one part of the world to another part of the world because of changing food preferences, cultural assimilation, and/or changing agricultural practices.
- D3. The Columbian Exchange may have accidentally or unintentionally introduced a new crop beyond its hearth of domestication (e.g., seeds or plants that may have been "stow-aways" in containers).

(E) Explain how the data in the table support the concept of a crop's consumption pattern being the result of globalization.**1 point**

Accept one of the following:

- E1. The high per capita production of corn, potatoes, rice, and/or cassava in locations far from the hearth (e.g., Brazil produces 1,056 pounds of corn per capita) supports the idea of this crop being a globalized crop.
- E2. The high consumption of corn, potatoes, rice, and/or cassava in locations far from the hearth (e.g., rice consumed outside of China) supports the idea of this crop being a globalized crop.
- E3. Globalized food culture, popularized food culture, global media coverage of food, and/or globalized consumer food preferences can be represented in the data where a crop is commonly produced away from its hearth of domestication.
- E4. Globalized populations, multicultural societies, global migration patterns, and/or cultural syncretism can be represented in the data where a crop is commonly produced away from its hearth of domestication.
- E5. Globalized trade and transportation facilitated by free-trade policies, neoliberal policies, complementarity, comparative advantage, competitive advantage, containerization, and/or bulk rail and ship transport can be represented in the data where a crop is commonly produced away from its hearth of domestication.
- E6. A globalized economy, increases in economic development, and/or the growth of a global middle class of consumers can be represented in the data where a crop is commonly produced away from its hearth of domestication.

- (F) Explain why a crop may be farmed intensively in a less developed country and be farmed extensively in a more developed country. 1 point**

Accept one of the following:

- F1. Subsistence or intensive farming of a staple crop in less developed countries may be done on small farm plots used to feed a household, whereas extensive or commercial farming in more developed countries would be practiced on large farms for a company's consumers.
- F2. Some farming of staple crops in less developed countries is based on intensive manual labor (e.g., using hand tools, animal power), whereas most farming in more developed countries is mechanized and/or uses limited human or animal labor inputs and is extensive.
- F3. Farmers in less developed countries may not be able to afford or have access to the investment capital, labor-saving equipment, seed supplies, and/or agricultural chemicals needed for extensive farm production, and thus use intensive human labor, whereas farmers in more developed countries tend to have financial resources for investments in extensive farming inputs.
- F4. Many farms in less developed countries use available local resources to feed families or local communities, whereas farms in more developed countries take advantage of economies of scale to produce for large populations.

- (G) Explain ONE way the global supply chain links crops such as those listed in the table to consumers in other countries. 1 point**

Accept one of the following:

- G1. Crops are transported internationally to consumers, with one of the following steps: storing, processing, packaging, wholesaling, and/or retailing.
- G2. Crop use in the global restaurant and fast-food industries, crops are cultivated and/or processed in one country and are then distributed through supply chains to local restaurants and/or chain restaurants for cooking in another country.
- G3. Due to the increased global consumption of frozen foods, dried foods, canned foods, and/or dehydrated foods, crops can be cultivated and processed into different preserved forms and then distributed to other countries for long-term storage by wholesalers, grocery stores, household consumers, and/or in restaurants until needed for cooking.
- G4. Crops are sent to facilities that process them into other forms (e.g., corn for ethanol, animal feed) which are shipped to wholesalers, retailers, and/or sold to consumers in other countries.

Total for question 2: 7 points