



## Chief Reader Report on Student Responses:

### 2025 AP<sup>®</sup> Human Geography Set 1

### Free-Response Questions

• Number of Students Scored	283,512		
• Number of Readers	1,351		
• Score Distribution	Exam Score	N	%At
	5	48,095	17.0
	4	71,492	25.2
	3	63,815	22.5
	2	72,068	25.4
	1	28,042	9.9
• Global Mean	3.14		

The following comments on the 2025 free-response questions for AP<sup>®</sup> Human Geography were written by the Chief Reader, Dr. Lisa Benton-Short, Professor of Geography at The George Washington University. They give an overview of each free-response question and of how students performed on the question, including typical student errors. General comments regarding the skills and content that students frequently have the most problems with are included. Some suggestions for improving student preparation in these areas are also provided. Teachers are encouraged to attend a College Board workshop to learn strategies for improving student performance in specific areas.

## Question 1

**Task:** Free-Response Question

**Topic:** Supranational Organizations

**Max Points:** 7

**Mean Score:** 3.57

	Max Points:	Mean Score:
Part A (Point 1)	1	0.69
Part B (Point 2)	1	0.64
Part C (Point 3)	1	0.66
Part D (Point 4)	1	0.49
Part E (Point 5)	1	0.48
Part F (Point 6)	1	0.37
Part G (Point 7)	1	0.22

***What were the responses to this question expected to demonstrate?***

This no-stimulus free-response question focused on the political geography concepts of independent states and sovereignty, with emphasis on the outcomes of international trade and technology and the resulting effects on core countries.

Students were expected to draw from two main units for this question, including Unit 4 (Political Patterns and Processes) and Unit 7 (Industrialization and Economic Development Patterns and Processes). The main skills for this question are found in Skill Category 1 (Concepts and Processes) and Skill Category 2 (Spatial Relationships). An additional skill for this question is found in Skill Category 5 (Scale Analysis).

The responses to this question were expected to demonstrate student knowledge on how political entities, economic changes, technological advancements, and international cooperation impact state sovereignty. This question examined the dynamics between national independence and global interdependence, highlighting the challenges and transformations faced by states in the contemporary world.

Part A asked students to define the concept of an independent state.

Part B asked students to describe one purpose of a supranational organization.

Part C asked students to describe one global outcome of an increase in international trade.

Part D asked students to explain how deindustrialization has affected the economy of core countries.

Part E asked students to explain why international boundaries on land or at sea may lead to disputes over resources.

Part F asked students to explain how supranational organizations such as the EU or ASEAN may challenge the sovereignty of member states.

Part G asked students to explain how advances in communication technologies may affect state sovereignty.

***How well did the responses address the course content related to this question? How well did the responses integrate the skill(s) required on this question?***

Most student responses earned 1 point for part A by correctly defining the concept of an independent state. Student responses that answered the question correctly recognized that terms like sovereignty or autonomy are helpful in defining independent states, while the student responses that did not earn the point did not make this connection. This question is based on information from PSO-4.B.1 in Topic 4.1 (Introduction to Political Geography), with students demonstrating Skill 1.A (Concepts and Processes) to answer the question correctly.

Most student responses earned 1 point for part B by correctly describing one purpose of a supranational organization. Student responses that answered this question correctly highlighted transnational challenges, trade agreements, and military alliances as purposes of supranational organizations, while the student responses that did not earn the point did not mention that supranational organizations enable member states to cooperate on issues that transcend cross international boundaries. This question is based on information from SPS-4.B.3 in Topic 4.9 (Challenges to Sovereignty), with students demonstrating Skill 1.A (Concepts and Processes) to answer the question correctly.

Most student responses earned 1 point for part C by correctly describing one global outcome of an increase in international trade. Student responses that did not answer this question correctly did not mention that neoliberal policies, including free trade agreements, have led to the creation of new organizations, the international division of labor, and trade relationships that enhance globalization. This question is based on information from PSO-7.A.2 in Topic 7.6 (Trade and the World Economy), with students demonstrating Skill 2.A (Spatial Relationships) to answer the question correctly.

Student responses that earned 1 point in part D correctly explained how deindustrialization has affected the economy of core countries. Student responses that did not answer this question correctly did not mention that outsourcing and economic restructuring have caused a decline in jobs in core regions and an increase in jobs in newly industrialized countries. This question is based on information from PSO-7.A.5 in Topic 7.7 (Changes as a Result of the World Economy), with students demonstrating Skill 2.C (Spatial Relationships) to answer the question correctly.

Student responses that earned 1 point in part E correctly explained why international boundaries on land or at sea may lead to disputes over resources. Student responses that did not earn a point did not mention that overlapping land and maritime boundaries can lead to disputes over resources. This question is based on information from IMP-4.B.3 in Topic 4.5 (The Function of Political Boundaries), with students demonstrating Skill 2.C (Spatial Relationships) to answer the question correctly.

Student responses that earned 1 point in part F correctly explained how supranational organizations such as the EU or ASEAN may challenge the sovereignty of member states. Student responses that did not earn a point did not mention that supranational organizations can challenge state sovereignty by limiting the economic or political actions of member states. This question is based on information from SPS-4.B.4 in Topic 4.9 (Challenges to Sovereignty), with students demonstrating Skill 5.B (Scale Analysis) to answer the question correctly.

Part G proved challenging for many students. Student responses that earned 1 point in part G correctly explained how advances in communication technologies may affect state sovereignty. Students who did not correctly answer this question did not mention that advances in communication technologies have facilitated devolution, supranationalism, and democratization. This question is based on information from

SPS-4.B.2 in Topic 4.9 (Challenges to Sovereignty), with students demonstrating Skill 2.B (Spatial Patterns) to answer the question correctly.

Overall, students were most successful on parts A, B, and C. Students found part D and part E to be more challenging. The most difficult parts for students to earn points were parts F and G.

***What common student misconceptions or gaps in knowledge were seen in the responses to this question?***

<i>Common Misconceptions/Knowledge Gaps</i>	<i>Responses that Demonstrate Understanding</i>
<ul style="list-style-type: none"> <li>In part F the student responses that did not earn a point failed to explain how supranational organizations such as the EU or ASEAN may challenge the sovereignty of member states. Common misconceptions included the belief that all member states must unanimously agree on decisions made by the supranational organization and the idea that sovereignty is lost because decisions made by the supranational organizations do not produce uniformly positive outcomes for all member states.</li> </ul>	<ul style="list-style-type: none"> <li>In part F student responses that earned 1 point correctly explained that supranational organizations may reduce the sovereignty of the member states by forcing them to take specific actions such as opening their borders for trade.</li> </ul>
<ul style="list-style-type: none"> <li>In part G responses that did not earn the point failed to explain how communication technologies affect state sovereignty. While many responses noted that communication technology allows people to access global information and potentially riot or revolt, many responses did not explain how this access directly impacts the state, such as by challenging its authority, pressuring policy changes, or weakening its sovereignty.</li> </ul>	<ul style="list-style-type: none"> <li>In part G responses that earned 1 point explained that communication technologies, like media platforms, can weaken state sovereignty by amplifying public awareness, increasing dissent, and pressuring governments to act in line with public demands.</li> </ul>

***Based on your experience at the AP<sup>®</sup> Reading with student responses, what advice would you offer teachers to help them improve student performance on the exam?***

- Because FRQ 1 is a zero-stimulus question, there is no visual, such as a map or graph, to assist students in recalling concepts. Teachers should be aware that the zero-stimulus free-response question often requires students to have a strong command of the course content and key terms to succeed. In this FRQ, the concepts of sovereignty, supranationalism, and deindustrialization were essential concepts.
- Teach students that understanding course vocabulary is essential. The task verb “define” is used sparingly; instead, students will be required to apply concepts correctly within a geographic context.
- Teach students to read the prompt carefully to ensure they understand what is being asked. They should answer the question that is asked, not the one they think is being asked.

***What resources would you recommend to teachers to better prepare their students for the content and skill(s) required on this question?***

- The Course and Exam Description provides a section on “Developing the Skills” on pages 143–151. This section provides examples of questions and instructional strategies for incorporating the course Skills on page 14 into classroom instruction.
- Sign in to AP Classroom to access AP Daily videos and questions on the topics and skills addressed in this question. AP teachers can assign students short AP Daily videos as homework, warm-ups, lectures, reviews, and more. AP teachers can also use the AP Question Bank in AP Classroom to enable students to practice and get feedback on formative topic questions and past AP Exam questions.
- Resources related specifically to this prompt include:
  - 4.1: Daily Video 1 examines how independent states are the primary building blocks of the world political map.
  - 4.1: Daily Video 2 examines types of political entities including nations, states, nation-states, stateless nations, multinational states, multistate nations, and autonomous and semiautonomous regions.
  - 4.1 Topic Questions: Analyze map of Northern Ireland (MCQ), Political entities shown on map (MCQ), and Small political entities (MCQ).
  - 4.2: Daily Video 1 examines how sovereignty, nation-states, and self-determination shape contemporary political geography.
  - 4.2 Topic Questions: Autonomy in Catalonia (MCQ), Self-determination and Kurds (MCQ), and Yugoslavia devolution (MCQ).
  - 4.5: Daily Video 2 examines how land and maritime boundaries, and international agents can influence national or regional identity and encourage or discourage international or internal interactions over resources.
  - 4.5 Topic Questions: Berlin Conference boundaries (MCQ), Claims on Spratly Islands (MCQ), and Explanation for shaded areas (MCQ).
  - 4.9: Daily Video 1 examines how advances in communication technology have facilitated devolution, supranationalism, and democratization.
  - 4.9: Daily Video 2 examines how global efforts to address transnational and environmental challenges and create economies of scale, trade agreements, and military alliances help further supranationalism.
  - 4.9 Topic Questions: Devolution in Spain and Canada (MCQ), Map of post-Soviet Russia (MCQ), and Threat to state sovereignty (MCQ).
  - 7.6: Daily Video 1 examines how complementarity and comparative advantage establish the basis for trade, and how economies have become more closely connected or even interdependent.
  - 7.6: Daily Video 2 examines how neoliberal policies, including free trade agreements, foster greater globalization.
  - 7.6 Topic Questions: Benefit of EU membership (MCQ), Comparative Advantage (MCQ), and Trade and the World Economy (MCQ).
  - 7.7: Daily Video 1 examines how outsourcing and restructuring led to a decline in jobs in core regions while increasing jobs in newly industrializing countries.
  - 7.7: Daily Video 2 examines economic changes such as the increase in international trade, deindustrialization, and growing interdependence on the world economy.
  - 7.7 Topic Questions: EU and Free Trade (MCQ), Global Economic Patterns (MCQ), and Medical Tech Growth Poles (MCQ).

- Additional resources may be found on the AP Human Geography Course Page on AP Central at: <https://apcentral.collegeboard.org/courses/ap-human-geography>
- The AP Human Geography Online Teaching Community (OTC) is another great resource, which includes materials and resources posted not only by the College Board but also by other teachers. The OTC Discussion Board is the place to ask questions, share resources, and exchange teaching ideas at: <https://apcommunity.collegeboard.org/group/aphumangeo/>

## Question 2

**Task:** Free-Response Question

**Topic:** Population Pyramid

**Max Points:** 7

**Mean Score:** 4.44

	Max Points:	Mean Score:
<b>Part A (Point 1)</b>	1	0.78
<b>Part B (Point 2)</b>	1	0.86
<b>Part C (Point 3)</b>	1	0.63
<b>Part D (Point 4)</b>	1	0.73
<b>Part E (Point 5)</b>	1	0.40
<b>Part F (Point 6)</b>	1	0.63
<b>Part G (Point 7)</b>	1	0.39

***What were the responses to this question expected to demonstrate?***

This one-stimulus question focused on a population pyramid, with an emphasis on what the shape of the population pyramid reveals about a population's age-sex structures, growth or decline of generations, and future needs based on fertility and aging patterns.

The stimulus for this question was the population pyramid for Japan in 2021. Students were expected to draw from two main units for this question, including Unit 2 (Population Patterns and Processes) and Unit 6 (Cities and Urban Land-Use Patterns and Processes). The main skills for this question are found in Skill Category 1 (Concepts and Processes) and Skill Category 3 (Data Analysis). An additional skill for this question is found in Skill Category 2 (Spatial Relationships).

The responses to this question were expected to demonstrate student knowledge of demographic trends and their implications. Students were asked to analyze population data, identify factors influencing urbanization and population changes, and evaluate the predictive power of population pyramids. Additionally, students were asked to consider the limitations of population pyramids in specific contexts, such as immigration, and the impact of policies on population growth rates.

Part A asked students to identify the recent trend in fertility as shown in Japan's population pyramid for the year 2021.

Part B asked students to describe the ratio of males to females in the Japanese population age 80 and above based on the data presented in the population pyramid.

Part C asked students to describe one process that drives urbanization.

Part D asked students to describe one factor that may lead to a decrease in total population within a more developed country.

Part E asked students to explain how a country's population pyramid can be used to predict the future needs of the population.

Part F asked students to explain why the population pyramid provides limited information about immigration to cities in Japan.

Part G asked students to explain the degree to which a country's population growth rate may be affected by a pronatalist policy.

***How well did the responses address the course content related to this question? How well did the responses integrate the skill(s) required on this question?***

Most student responses earned 1 point for part A by correctly identifying the recent trend in Japan's fertility as shown in the population pyramid, such as declining fertility or fewer children being born. Student responses that did not answer this question correctly did not identify the recent fertility trend. This question is based on information from PSO-2.F.1 in Topic 2.3 (Population Composition) and IMP-2.A.1 in Topic 2.4 (Population Dynamics), with students demonstrating Skill 3.A (Data Analysis) to answer the question correctly.

Most student responses earned 1 point for part B by correctly describing that there are more women than men or fewer men than women in the Japanese population age 80 and above based on the data shown in the population pyramid. Student responses that did not correctly answer this question did not accurately describe the ratio of males to females in the age 80 and above cohorts. This question is based on information from PSO-2.E.1 in Topic 2.3 (Population Composition), with students demonstrating Skill 3.B (Data Analysis) to answer the question correctly.

Most student responses earned 1 point for part C by correctly describing a process that drives urbanization, such as rural-urban migration or the population growth of a country, city, metropolitan area, or urban area. Student responses that did not correctly answer this question did not accurately describe a process that drives urbanization. This question is based on information from PSO-6.A.1 and PSO-6.A.2 in Topic 6.1 (The Origin and Influences of Urbanization), with students demonstrating Skill 1.A (Concepts and Processes) to answer the question correctly.

Most student responses earned 1 point for part D by correctly describing a factor that may lead to a decrease in the total population within a more developed country, such as declining fertility, increasing mortality, or emigration. Student responses that did not answer this question correctly failed to describe a factor that may cause the total population in a more developed country to decline. This question is based on information from IMP-2.A.1 and IMP-2.A.3 in Topic 2.4 (Population Dynamics), as well as SPS-2.B.1 in Topic 2.8 (Women and Demographic Change) and SPS-2.C.1 in Topic 7.3 (Measures of Development), with students demonstrating Skill 1.D (Concepts and Processes) to answer the question correctly.

Part E proved difficult for many students. Student responses that earned 1 point for part E correctly explained how a country's population pyramid can be used to predict future population needs by analyzing pyramid shapes or trends in population growth and decline. Student responses that did not answer this question correctly could not explain how population growth or decline could be used to predict future demands for goods and services. This question is based on information from PSO-2.F.1 and PSO-2.E.1 in Topic 2.3 (Population Composition), with students demonstrating Skill 2.C (Spatial Relationships) to answer the question correctly.

Most student responses earned 1 point for part F by correctly explaining why the population pyramid provides limited information about immigration to cities in Japan. Student responses that did not answer this question correctly did not explain why population pyramids do not provide data on migration or did not explain that the population pyramid shown was at the country scale and not the city scale. This question is based on information from IMP-6.E.1 in Topic 6.9 (Urban Data), IMP-2.D.2 in Topic 2.11 (Forced and Voluntary Migration), and PSO-2.F.1 in Topic 2.3 (Population Composition) with students demonstrating Skill 3.F (Data Analysis) to answer the question correctly.



Part G was difficult for many students. Student responses that earned 1 point for part G correctly explained the degree to which a country’s population growth rate may be affected by a pronatalist policy. Student responses that did not earn a point either did not indicate the degree or did not provide a correct explanation. This question is based on information from SPS-2.A.1 in Topic 2.1 (Population Distribution) and information from IMP-2.A.3 in Topic 3.4 (Population Dynamics), with students demonstrating Skill 2.E (Spatial Relationships) to answer the question correctly.

Overall, parts A, B, D, and F were accessible to most students. Some students found part C challenging. Many students had difficulty earning points in parts E and G.

***What common student misconceptions or gaps in knowledge were seen in the responses to this question?***

<i>Common Misconceptions/Knowledge Gaps</i>	<i>Responses that Demonstrate Understanding</i>
<ul style="list-style-type: none"> <li>In part C some student responses did not demonstrate an understanding of the processes that drive urbanization. Common misconceptions included the belief that urban areas have limited resources or are confined to limited geographic locations.</li> </ul>	<ul style="list-style-type: none"> <li>In part C student responses that earned 1 point accurately described the migration of rural residents to cities in search of job opportunities as a key driver of urbanization. Student responses that also earned 1 point mention rapid population growth and technological advancement as contributing factors.</li> </ul>
<ul style="list-style-type: none"> <li>In part E some student responses did not demonstrate an understanding that population growth or decline affects future demand for goods and services and did not explain how population pyramids can be used to predict such needs.</li> </ul>	<ul style="list-style-type: none"> <li>In part E student responses that earned 1 point correctly explained how a country’s population pyramid can be used to indicate either high birth rates and a rapidly growing population or low birth rates and an aging population, therefore predicting future needs of the population. For example, a rapidly growing population will lead to increased demand for daycare, education and other services for children.</li> </ul>
<ul style="list-style-type: none"> <li>In part G student responses that did not earn a point either did not indicate the degree or provided an incorrect explanation about the effects of a pronatalist policy on a country’s population growth rate.</li> </ul>	<ul style="list-style-type: none"> <li>In part G student responses that earned 1 point correctly explained that pronatalist policies may affect the population growth rate to a low degree if the cost of raising children is still high or the policies are not granted equally to all residents.</li> </ul>

***Based on your experience at the AP<sup>®</sup> Reading with student responses, what advice would you offer teachers to help them improve student performance on the exam?***

- Practice scale of analysis using charts and graphs, not just maps.
- Teach students to understand and interpret the data shown on a population pyramid.
- Review task verbs and their expectations. For example, to successfully respond to the task verb “Explain,” a response must include a causal connection that articulates a process, an outcome, or a relationship between concepts.
- Teach students to fully develop responses by including cause and effect to explain why a policy is greatly, moderately, or not very effective.

- Design activities and assessments that reinforce the interconnectedness of the units in APHG. For example, explore how population migration affects cities and how economic development impacts urban areas.
- Teach students to identify and explain the limitations of information provided by a map or chart.
- Design activities that challenge students to discuss what is not shown, not available, or not provided by a stimulus. Have students identify the true purpose of a map or chart (e.g., What information does this map provide? What does it not show?).

***What resources would you recommend to teachers to better prepare their students for the content and skill(s) required on this question?***

- The Course and Exam Description provides a section on “Developing the Skills” on pages 143–151. This section provides examples of questions and instructional strategies for incorporating the course Skills on page 14 into classroom instruction.
- Sign in to AP Classroom to access AP Daily videos and questions on the topics and skills addressed in this question. AP teachers can assign students short AP Daily videos as homework, warm-ups, lectures, reviews, and more. AP teachers can also use the AP Question Bank in AP Classroom to enable students to practice and get feedback on formative topic questions and past AP Exam questions.
- Resources related specifically to this prompt include:
  - 2.1: Daily Video 1 examines how physical and human factors influence the distribution of population.
  - 2.1: Daily Video 2 examines the three methods used to calculate population density and how they reveal different information.
  - 2.1 Topic Questions: Areas with highest population density (MCQ), Information in population map (MCQ), Population density in East Africa (MCQ).
  - 2.3: Daily Video 1 examines how the patterns of age structure and sex ratio vary across different regions and may be mapped and analyzed at different scales.
  - 2.3 Topic Questions: Rate of Natural Increase (MCQ), School Enrollments (MCQ), and Youth Dependent Population (MCQ).
  - 2.4: Daily Video 1 examines the demographic factors that determine a population’s growth and decline including fertility, mortality, and migration.
  - 2.4: Daily Video 2 examines the social, cultural, political, and economic factors that influence fertility, mortality, and migration rates.
  - 2.4 Topic Questions: Development and demographic indicators (MCQ), Megacity population growth (MCQ), and Population growth in the twenty-first century (MCQ).
  - 2.8: Daily Video 1 examines how changing social values and access to education, employment, health care, and contraception have reduced fertility rates.
  - 2.8: Daily Video 2 examines how changing social, economic, and political roles for females have influenced patterns of fertility, mortality, and migration, as illustrated by Ravenstein’s laws of migration.
  - 2.11: Daily Video 1 examines forced migrations including slavery, and events that produce refugees, internally displaced persons, and asylum seekers.
  - 2.11: Daily Video 2 examines the types of voluntary migrations.
  - 2.11 Topic Questions: Asylum seekers from Syria in Europe (MCQ), European Union and asylum seekers (MCQ), and South Asian migrants to Persian Gulf (MCQ).
  - 6.1: Daily Video 1 examines the presence and growth of cities vary across geographical locations because of physical geography and resources.

- 6.1 Topic Questions: Reasons for Forward Capitals (MCQ), Site Characteristics (MCQ), and Site Characteristics (MCQ).
- 6.9: Daily Video 1 examines how qualitative and quantitative data are used to show the causes and effects of geographic change within urban areas.
- 6.9 Topic Questions: Land Prices on Bid Rent Curve (MCQ), Quantitative Data (MCQ), and Urban Data (MCQ).
- Additional resources may be found on the AP Human Geography Course Page on AP Central at: <https://apcentral.collegeboard.org/courses/ap-human-geography>
- The AP Human Geography Online Teaching Community (OTC) is another great resource, which includes materials and resources posted not only by the College Board but also by other teachers. The OTC Discussion Board is the place to ask questions, share resources, and exchange teaching ideas at: <https://apcommunity.collegeboard.org/group/aphumangeo/>

### Question 3

**Task:** Free-Response Question

**Topic:** Agricultural Patterns

**Max Points:** 7

**Mean Score:** 2.97

	Max Points:	Mean Score:
<b>Part A (Point 1)</b>	1	0.80
<b>Part B (Point 2)</b>	1	0.30
<b>Part C (Point 3)</b>	1	0.32
<b>Part D (Point 4)</b>	1	0.55
<b>Part E (Point 5)</b>	1	0.43
<b>Part F (Point 6)</b>	1	0.19
<b>Part G (Point 7)</b>	1	0.38

***What were the responses to this question expected to demonstrate?***

This two-stimulus question focused on the spatial patterns of contemporary agriculture and land use using two maps. Map 1 showed global patterns of cow's milk production. Map 2 showed global patterns of pork production. Other parts of the question dealt with cultural traits, the environmental effects of agricultural land use, the globalization of agriculture, and the interdependence of agricultural regions.

Students were expected to draw from two main units for this question including Unit 3 (Cultural Patterns and Processes) and Unit 5 (Agricultural and Rural Land-Use Patterns and Processes). The main skills for this question are found in Skill Category 1 (Concepts and Processes) and Skill Category 2 (Spatial Relationships). Additional skills for this question are found in Skill Category 4 (Source Analysis) and Category 5 (Scale Analysis).

The responses to this question were expected to demonstrate student knowledge on cultural traits, spatial patterns in agriculture, and the environmental impacts of agricultural practices. Students were asked to analyze maps, compare agricultural production patterns, and explain the effects of globalization and interdependence in agriculture. Additionally, students were asked to demonstrate their knowledge of how domesticated animals have diffused spatially to create observed patterns.

Part A asked students to identify an example of a cultural trait.

Part B asked students to describe the spatial pattern of cow's milk production in Africa, shown in Map 1.

Part C asked students to compare the spatial pattern of cow's milk production and pork production in Asia on Map 1 and Map 2.

Part D asked students to describe one environmental effect of agricultural land use such as commercial animal farms.

Part E asked students to explain how the globalization of agriculture may affect local cultural traits.

Part F asked students to explain why regions of agricultural production may become interdependent.

Part G asked students to explain how domesticated animals such as pigs spatially diffused to create the spatial pattern shown on Map 2.

***How well did the responses address the course content related to this question? How well did the responses integrate the skill(s) required on this question?***

Most student responses that earned 1 point for part A correctly identified an example of a cultural trait, such as food preferences, religion, music, or clothing. This question is based on information from PSO-3.A.2 in Topic 3.1 (Introduction to Culture), with students demonstrating Skill 1.A (Concepts and Processes) to answer the question correctly.

Part B proved challenging for many students. Student responses that earned 1 point for part B correctly described the spatial pattern of cow's milk production in Africa based on Map 1, such as low amounts of milk production in west, central and/or southwest Africa. Students who did not correctly answer this question did not accurately describe the location and volume of cow's milk production in Africa. This question is based on information from PSO-5.C.1 in Topic 5.6 (Agricultural Production Regions), with students demonstrating Skill 4.B (Spatial Relationships) to answer the question correctly.

Part C proved challenging for many students. Student responses that earned 1 point for part C correctly compared the spatial pattern of cow's milk production and pork production in Asia on Map 1 and Map 2, such as high or medium volumes of milk production in most Asian countries and high or medium pork production in East Asia and/or parts of Southwest Asia. Students who did not correctly answer this question did not accurately compare Map 1 and Map 2 or they discussed the spatial pattern on only one map. This question is based on information from IMP-1.A.2 in Topic 1.1 (Introduction to Maps), with students demonstrating Skill 4.D (Source Analysis) to answer the question correctly.

Most student responses earned 1 point for part D by correctly describing an environmental effect of agricultural land use such as commercial animal farms by discussing air and water pollution or land cover change. Student responses that did not correctly answer this question did not accurately describe one environmental effect on agricultural land use. This question is based on information from IMP-5.A.1 in Topic 5.10 (Consequences of Agricultural Practices), with students demonstrating Skill 2.A (Spatial Relationships) to answer the question correctly.

Most student responses earned 1 point for Part E by correctly explaining how the globalization of agriculture may affect local culture traits by stating that it may lead to changes in food preferences. Student responses that did not answer this question correctly vaguely describe changes in food production and consumption without addressing how local consumers may be affected. This question is based on information from SPS-3.A.3 in Topic 3.5 (Contemporary Cause of Diffusion), with students demonstrating Skill 5.B (Scale Analysis) to answer the question correctly.

Part F proved difficult for many students. Student responses that earned 1 point for part F correctly explained why regions of agricultural production may become interdependent because of the development of comparative advantages, trade relationships, or connections through global food distribution networks. Student responses that did not answer this question correctly did not demonstrate an understanding of the concept of interdependence. This question is based on information from PSO-5.E.1 in Topic 5.9 (The Global System of Agriculture), with students demonstrating Skill 2.C (Spatial Patterns) to answer the question correctly.

Part G proved difficult for many students. Student responses that earned 1 point for part G correctly explained how domesticated animals such as pigs diffused from their hearths of domestication through relocation or expansion diffusion to create the spatial pattern shown on Map 2. Students who did not answer this question correctly did not accurately explain how the spatial diffusion of domesticated animals such as pigs spread to

new areas. This question is based on information from SPS-5.B.1 in Topic 5.3 (Agricultural Origins and Diffusions) and IMP-3.A.1 in Topic 3.4 (Types of Diffusion), with students demonstrating Skill 4.C (Source Analysis) to answer the question correctly.

Overall, part A and part D were most accessible. Students found part E and part G to be more challenging. The most difficult parts to earn points were in by parts B, C and F.

***What common student misconceptions or gaps in knowledge were seen in the responses to this question?***

<i>Common Misconceptions /Knowledge Gaps</i>	<i>Responses that Demonstrate Understanding</i>
<ul style="list-style-type: none"> <li>In part B student responses did not correctly describe the spatial patterns of milk production shown on the map. Some responses were vague and inconsistent, using both “dispersed” and “clustered” without clearly identifying specific regions or patterns.</li> </ul>	<ul style="list-style-type: none"> <li>In part B student responses that earned 1 point correctly described the spatial pattern of cow’s milk production in Africa shown on Map 1 by describing the clustering of medium and high levels of cow’s milk production in specific regions of Africa, namely the north, east, and south.</li> </ul>
<ul style="list-style-type: none"> <li>In part C most student responses did not correctly compare the patterns of milk and pork production shown on the two maps. Student responses that did not earn a point referenced countries outside of Asia and failed to make a direct comparison between the spatial patterns of cow’s milk and pork production within Asia.</li> </ul>	<ul style="list-style-type: none"> <li>In part C student responses that earned 1 point correctly compared the spatial patterns of cow’s milk production and pork production in Asia on Map 1 and Map 2 by identifying specific regions with similar and differing production volumes, demonstrating an understanding of geographic distribution. Student responses that earned 1 point also mentioned both maps in their comparison.</li> </ul>
<ul style="list-style-type: none"> <li>In part F most student responses did not accurately explain why regions of agricultural production may become interdependent. Many responses focused on local ecological interactions, shared climate conditions, or individual labor needs, rather than addressing economic interdependence driven by trade and commodity specialization.</li> </ul>	<ul style="list-style-type: none"> <li>In part F student responses that earned 1 point effectively explained how climate-based crop specialization creates a commodity advantage, leading to regional interdependence through trade, often supported by examples of mutual reliance between regions.</li> </ul>
<ul style="list-style-type: none"> <li>In part G most student responses did not correctly compare the patterns of diffusion of domesticated animals such as pigs. The responses that did not earn a point did not explain the historical process of spatial diffusion from hearths of domestication (e.g., through the Columbian Exchange) and instead offered vague or inaccurate descriptions of animal movement or environmental suitability.</li> </ul>	<ul style="list-style-type: none"> <li>In part G student responses that earned 1 point explained how domesticated animals, such as pigs, spatially diffused to create the pattern shown on Map 2. The responses accurately referenced the Columbian Exchange or identified hearths of domestication from which domesticated animals diffused, demonstrating how historical processes shaped the observed distribution.</li> </ul>

**Based on your experience at the AP<sup>®</sup> Reading with student responses, what advice would you offer teachers to help them improve student performance on the exam?**

- Work with students on map reading skills, emphasizing the importance of carefully examining legends, understanding them, and comparing choropleth maps.
- Have students practice comparing different types of information on two maps.
- Teach students to recognize the “scale” within a question part (e.g., Part E asks how the globalization of agriculture might impact local cultural traits).
- Teach students key geographic concepts, such as the concept of regional interdependency.

**What resources would you recommend to teachers to better prepare their students for the content and skill(s) required on this question?**

- The Course and Exam Description provides a section on “Developing the Skills” on pages 143–151. This section provides examples of questions and instructional strategies for incorporating the course Skills on page 14 into classroom instruction.
- Sign in to AP Classroom to access AP Daily videos and questions on the topics and skills addressed in this question. AP teachers can assign students short AP Daily videos as homework, warm-ups, lectures, reviews, and more. AP teachers can also use the AP Question Bank in AP Classroom to enable students to practice and get feedback on formative topic questions and past AP Exam questions.
- Resources related specifically to this prompt include:
  - 3.1: Daily Video 1 examines how culture comprises the shared practices, technologies, attitudes, and behaviors transmitted by a society.
  - 3.1: Daily Video 2 examines how cultural traits include things such as food preferences, architecture, and land use.
  - 3.1: Daily Video 3 examines how cultural relativism and ethnocentrism are different attitudes toward cultural difference.
  - 3.1 Topic Questions: Concept symbolized by pagoda (MCQ), Cultural Landscape Netherlands (FRQ), Cultural landscape features in an image (MCQ), and Cultural trait and architecture (MCQ).
  - 3.4: Daily Video 1 examines the different types of diffusion including relocation, contagious, hierarchical, and stimulus diffusion.
  - 3.4: Daily Video 2 examines the differences between the types of diffusion using examples and will explain barriers that may decrease diffusion of culture.
  - 3.4 Topic Questions: Diffusion of porcelain (MCQ), Hierarchical diffusion scenarios (MCQ), and Relocation diffusion of language in 20th century (MCQ).
  - 3.5: Daily Video 1 examines how interactions between and among cultural traits and larger global forces (including colonialism and trade) can lead to new forms of cultural expression.
  - 3.5 Topic Questions: Christianity and the Philippines (MCQ), English language in North America (MCQ), and Gaelic and English road sign (MCQ).
  - 5.6: Daily Video 1 examined how economic forces influence commercial and subsistence agricultural practices.
  - 5.6: Daily Video 2 examines how economic forces influence intensive and extensive farming practices.
  - 5.6 Topic Questions: Agricultural Production Regions (MCQ), Agricultural Production Regions (MCQ), Rice and Green Revolution (FRQ), and Tea in Sri Lanka (MCQ).
  - 5.9: Daily Video 1 examines food and other agricultural products are part of a global supply chain.

- 5.9 Topic Questions: Consequences of agricultural practices (MCQ), Global system of agriculture (MCQ), and Regional Interdependence of Agriculture (MCQ).
- 5.10: Daily Video 1 examines how agricultural practices have environmental consequences including pollution, desertification, and soil salinization.
- 5.10: Daily Video 2 examines how agricultural practices such as terraces, irrigation systems, deforestation, draining wetlands, and shifting agriculture can alter the landscape.
- 5.10 Topic Questions: Agricultural practices (MCQ), Feedlots and sustainability (MCQ), and Use of chemicals in agriculture (MCQ).
- Additional resources may be found on the AP Human Geography Course Page on AP Central at: <https://apcentral.collegeboard.org/courses/ap-human-geography>
- The AP Human Geography Online Teaching Community (OTC) is another great resource, which includes materials and resources posted not only by the College Board but also by other teachers. The OTC Discussion Board is the place to ask questions, share resources, and exchange teaching ideas at: <https://apcommunity.collegeboard.org/group/aphumangeo/>