



## **AP<sup>®</sup> Human Geography 2011 Scoring Guidelines**

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# AP<sup>®</sup> HUMAN GEOGRAPHY

## 2011 SCORING GUIDELINES

### Question 1

The map and table above show the geographic location, population growth, and projected growth of Mexico's most populous cities.

#### Part A (3 points)

Define the following terms and describe how each relates to Mexico's urban geography.

Primate city (1 point)

Magnitude (it is more than two times the size of the next-largest city) AND significance (it exerts social, political, economic dominance).

Rank-size rule (1 point)

$N$ th largest city is  $1/n$  smaller than the largest city; more small cities, fewer larger cities.

*Note:* Do not grant credit if student misrepresents the proportion by saying  $\frac{1}{2}$  for all relationships.

Describe how each relates to Mexican urban geography (1 point)

Mexico does not comply with the rank-size rule (there is a poorly developed urban hierarchy because Mexico City is a primate city).

**OR**

Mexico City is an example of a primate city because it is disproportionately larger than other Mexican cities and dominates the country.

*Note:* Either argument will earn the point, but students cannot contradict themselves.

#### Part B (4 points)

Explain TWO positive effects of primate cities on a country's economic development . . .

Positive effects (1 point each; total of 2 points)

- Advantages of agglomeration of economic activity.
- Large market for goods and services.
- Ability to offer high-end goods and services (including education) because of larger threshold population.
- Advantages of enhanced flow of information and ideas in large population.
- Advantages of centralized transportation and communication network.
- Global trade opportunities; primate cities can compete on a global scale and attract foreign investment.

*Note:* The response must focus on and explain the positive impact on economic development; for example, tourism in primate cities must be linked to economic benefits to the nation's economy.

# AP<sup>®</sup> HUMAN GEOGRAPHY

## 2011 SCORING GUIDELINES

### Question 1 (continued)

... and TWO different negative effects of primate cities on a country's economic development.

Negative effects (1 point each; total of 2 points)

- Unequal distribution of investments deters national economic development.
- Unequal economic and/or resource development.
- Unequal distribution of wealth and/or power.
- Transportation network (hub and spoke) prevents equal accessibility to all regions.
- Impact of centrifugal forces and difficulties of political cohesion on economic development.
- Brain drain — migration and unequal distribution of education, entrepreneurship, opportunities.
- Disproportionate effect of disaster in the primate city on entire country.
- Negative externalities, e.g., unsustainable urban growth/slums/environmental impacts **if** these are related to economic development, e.g., burden on national economy to cope with problems.

# AP<sup>®</sup> HUMAN GEOGRAPHY

## 2011 SCORING GUIDELINES

### Question 2

In 1798 Thomas Robert Malthus published *An Essay on the Principle of Population* in which he argued that population growth will inevitably outpace food production, resulting in widespread famine.

#### **Part A (4 points: 1 point for each reason identified [ID] and 1 explanation point per ID)**

Identify and explain TWO reasons why some geographers today believe Malthus' theory can be used to predict future population issues.

**ID:** Population has been rising quickly. **OR**  
Population has generally grown as predicted by Malthus.

#### **Explanation**

- Limited use of contraception.
- Political policies, economic decisions, cultural beliefs that support population growth.
- Demographic transition model, referring to Stage 2 and/or early Stage 3.

**ID:** Food supply has increased, but it has not kept up with population increase. **OR**  
Food supply has generally grown as predicted by Malthus.

#### **Explanation**

- Failure to adopt agricultural innovation, owing to political policies, economic decisions, cultural beliefs.
- Conversion of farmland for urban use.
- Environmental degradation such as desertification, overgrazing, clear cutting, soil erosion, unavailability of fresh water.
- Conversion of life-supporting crops to cash crops (tobacco, sugar, cotton, tea, coffee).
- Rising fuel costs will slow down growth of food production and distribution.
- Climate change will decrease production.

**ID:** There are other limiting factors on population in addition to food.

#### **Explanation**

- Because of resource overuse and/or environmental degradation, we are in danger of exceeding the carrying capacity (clean air, fossil fuel, water, and other resources).

# AP<sup>®</sup> HUMAN GEOGRAPHY 2011 SCORING GUIDELINES

## Question 2 (continued)

### Part B (4 points: 1 point for each reason identified [ID] and 1 explanation point per ID)

Identify and explain TWO reasons why some geographers today believe Malthus' theory cannot be used to predict future population issues.

**ID:** Population growth has not been rising geometrically/exponentially. **OR**  
Population has generally not grown as predicted by Malthus.

#### **Explanation**

- Expanded use of contraception.
- Political policies, economic decisions, cultural beliefs that limit population growth.
- Demographic transition model, referring to late Stages 3, 4, and/or 5 (declining birth rate).

**ID:** Food supply has grown faster than predicted by Malthus. **OR**  
Carrying capacity has expanded.

#### **Explanation**

- New technologies, such as: mechanization, factory farming, industrial agriculture, agribusiness, use of chemicals, irrigation, GPS.
- Greater efficiencies, such as: larger farms, consolidation of farms, mechanization, multicropping.
- Green Revolution, genetically modified crops, multicropping, improved seeds, high-yielding cultivars.
- Expansion of agricultural lands.
- Human ability to create new techniques.

**ID:** Our ability to preserve food and/or distribute food to areas of need is much greater than during Malthus' time.

#### **Explanation**

- Improvements in any and all methods of transportation (highways, containerization, refrigerated trucks).
- Improvements in food preservation (refrigeration, packing, processed food).

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## Question 3

Industrial location models are used to explain geographic patterns of economic activity. The maps above show automobile factories built before and after 1986 in the United States.

### Part A (2 points)

Identify TWO changes in the geography of automobile factory construction shown by the maps.

1. International-based change in the geography of plant construction
  - a. Increase in the number/investment of foreign-owned automobile plants **OR**
  - b. Increase in both small and especially larger-size, foreign-owned automobile plants

*Note:* Students cannot earn 2 points for listing two international-based changes.

2. Domestic-based change in the geography of plant construction
  - a. Increase in the number/investment of automobile plants in the South or Southeast part (Sun Belt) of the United States
  - b. Increase in number/investment of automobile plants built away from the traditional core of the American manufacturing belt (Rust Belt)
  - c. Decrease in the number of American-owned automobile plants
  - d. Decrease in the number/investment of automobile plants west of the Mississippi River

#### *Notes*

- Students cannot earn credit by simply counting the change in number of plants per state.
- Students may earn 2 points for identifying TWO domestic-based changes.

### Part B (4 points)

Identify and explain TWO factors related to industrial location that may have contributed to the changes.

Identification (1 point each)	Explanation (1 point each)
1. Low-cost labor (not low-skilled or uneducated workforce)	<ul style="list-style-type: none"> <li>• More nonunionized labor in the South (or Southeast or Sun Belt).</li> <li>• Right-to-work states in the South (or Southeast or Sun Belt).</li> </ul>
2. Market	<ul style="list-style-type: none"> <li>• More foreign-owned companies to minimize shipping costs (cheaper transportation costs).</li> <li>• More foreign-owned companies to avoid paying federally imposed tariffs.</li> <li>• United States represents one of the world's largest markets for automobile consumption.</li> </ul>
3. Deindustrialization (North only)	<ul style="list-style-type: none"> <li>• Shifting or relocation of automobile plants because of high labor costs (unions) in the North.</li> <li>• Obsolete infrastructure in the North (or Rust Belt).</li> <li>• Outsourcing — domestic companies shifting from states in the North to Mexico.</li> </ul>

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## Question 3 (continued)

4. Government policies	<ul style="list-style-type: none"><li>• Economic and development incentives — pro-industrial policies.</li><li>• Connection to preexisting infrastructure systems — e.g., access to interstate highways, rail spurs, water/sewage/electricity.</li><li>• State and local taxes — lower in the South, higher in the North.</li><li>• Variances on zoning and environmental regulations.</li></ul>
5. Cheap land	<ul style="list-style-type: none"><li>• Accessible and available sites in the South cost less than accessible and available sites in the North.</li></ul>
6. Available infrastructure	<ul style="list-style-type: none"><li>• Cost-efficient interstate highway systems in the South (or Southeast or Sun Belt).</li><li>• Cost-efficient rail system in the South (or Southeast or Sun Belt).</li><li>• Allows quick and inexpensive assembly of supplies for the manufacture of automobiles and efficient distribution of automobiles to car dealerships.</li><li>• Facilitates just-in-time production.</li></ul>
7. Cheap energy	<ul style="list-style-type: none"><li>• Abundant, inexpensive supplies of energy in the South.</li><li>• South (or Southeast) is below the national average for \$/kWh.</li></ul>

*Note:* No identification or explanation points should be awarded for the mention of raw materials.