

MULTIPLE CHOICE QUESTIONS

- 1. B** In this question, the key is to compare *push* versus *pull* factors in human migration. The question requires you to identify a factor related to rural agricultural life that would push someone to move off the farm, such a war or conflict in the countryside. The distractors (A), (C), and (D) are pull factors, or things that are a part of urban life that attract people to cities. Choice (E) is the opposite of an expected push factor, in that *increasing* land costs (as opposed to decreasing) are what often push people off their farms and into cities.
- 2. D** This reverse definition question is sort of like watching *Jeopardy!* "What is environmental determinism? Alex, I'll take human geography for 500." In this type of question you must match the question material to the keyword definitions you have learned. Transhumance is used to describe seasonal migration in search of natural resources or pasture animals. Cultural imperialism is when a dominant state expresses its culture in colonies or other parts of the world. Convergence zones are physical geographic areas, where one climate transitions to a different climatic zone. Tobler's law is a spatial analysis principle describing how all places are related, and closer places are more related than others.
- 3. E** The cultural geographic notion of the *nation* is a population represented by a singular culture. As a culture group, the Kurds are a nation and population, which span the borders of Iraq, Iran, Syria, and Turkey, but are not incorporated into the governments in these states—Kurds control an autonomous region in northern Iraq, but are still under the sovereignty of the new Iraqi government. The other answers are all national identities based on a representative sovereign state—Greece, Egypt, Panama, Indonesia.
- 4. A** This question requires you to identify multiple characteristics for agriculture in a nonspecific category. Consider agriculture in the United States and Canada. Small family farms are not able to earn a profit and are being replaced by large corporate farms. The United States and Canada are First World countries. Of course, we've also seen the growth of small specialty agriculture focused on organics and fruit crops. However, the question asked you to generalize; the word "tends" means "usually." Thus, you have to filter out some of the exceptional or new trends that have emerged in First World agriculture and rely on the typical image of the First World industrial farm. A related fact that will help you remember is that industrialized states have already experienced large-scale rural-to-urban migration. Therefore, rural areas have depopulated and family-owned farms are increasingly rare.
- 5. B** The first step to identifying the shaded area on the map is to visualize which regions are a part of the shaded area. Notice that portions of countries such as the British Midlands, northern Italy, western Germany, and northeastern France are shaded. The second step is to recognize which of the answers would or would not include these regions. Using POE, you can immediately eliminate (C), as this would include multiple whole states. Reading the other answers reveals that you have a couple of core-periphery examples to examine. Mackinder identified his Heartland core region as being the steppes of Eastern and Central Europe. A number of areas in Europe are identified as culture hearths to some degree. Typically, the classical Mediterranean cultures of Rome and Greece are identified as the European culture hearth. In some ways, the location of the industrial and population core of Europe can be equated regionally. Imagine where there is a high concentration of large cities in Western Europe, and you could, at minimum, locate London and Paris within the shaded region.

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Thus, the shaded region is more likely to be the European population core as opposed to the periphery. Consider also that northern Italy, the Rhine River Valley, and the British Midlands are all important industrial regions.

6. **E** The areas identified by the arrows include Northern Ireland, Bosnia, and Cyprus. Choice (A) is very general and applies to all of Europe. Thus, you can eliminate it as a continental scale issue. Choices (B), (C), and (D) each have flaws, with at least one of the areas identified. None of the three areas were original 1957 members of the EEC—Great Britain joined in 1973. In the question of sovereignty, Northern Ireland has been granted limited autonomy through its own parliament but is still part of the United Kingdom. And only Bosnia, of the three identified, was under Communism during the twentieth century.
7. **B** There are many population dimensions to the one-child policy in China. This question asks you to relate the one-child policy to other population geography issues. The key here is to figure out which population issue fits into the one-child policy story. Eliminate (A), as there has been out-migration by Chinese to other parts of the world, but we cannot show a direct cause-and-effect relationship between the policy and outmigration because there are other political and economic reasons for which people leave China. Choice (C) is not possible because rural-to-urban migration is the result of industrialization in China. Choice (D) seems like a possibility; however, China's population is still growing (despite the policy), with an RNI of 0.7 percent—recall that the only countries with negative rates of natural increase are in Europe. Likewise, (E) is incorrect because foreign guest workers are common in First World countries and in the Persian Gulf oil states, where there is a combination of low birth rates, wealth, and higher education standards. Thus, (B) fits best, even if you don't know that China's total fertility rate is around 1.8 (and the statistical replacement rate is 2.1). Do the math. If most couples in China have only one child, then a large proportion of the population is not replacing itself. China's population may one day shrink. However, compared to (D), it will take a few generations and some time for negative population growth to occur.
8. **A** The majority of the world's Web sites are in English, as are all Hollywood movies. Thus, other cultures and governments in non-English-speaking countries often complain about the globalizing effects of exported English-language media. Choices (B) and (D) are specific types of diffusion. Diffusion questions would describe some sort of pattern. And the Internet has diffused globally in a hierarchical pattern from technologically advanced First World states to other parts of the globe. Choices (C) and (E) are unrelated to the topic of globalization. The Anatolian migration is one of two theories used to explain the geography of Indo-European language migration routes. Vernacular regions are culture regions self-identified and recognized by their inhabitants.
9. **C** The establishment of the European Union has a number of geographic implications. It is primarily a free-trade zone where tariffs have been eliminated. However, a number of enhancements have been added to make free-trade more effective, such as open borders and the single common currency, the Euro. Likewise, the EU has created a large regulatory and legal system to its federal governance of its member states. By allowing EU citizens to work anywhere within the union and by removing customs stations on the borders between EU states, the internal borders of the Union are not eliminated but are opened for the purposes of labor and trade. Choice (A) might be seen as referring to the elimination of customs controls,

but it has no relationship to the workforce movement. Choice (B) is incorrect because the European Coal and Steel Community (ECSC) was the 1950s forerunner of the EU. You can get rid of (D) because the introduction of the Euro in 2000 came after the elimination of border controls, which began in 1985. Choice (E) is a new legal aspect of the EU that can be considered a non-economic aspect of the union.

10. **D** Ancient history? Yes, but we're talking about an important concept in cultural geography, *culture hearths*. Wheat is thought to have been domesticated in Mesopotamia (present-day Iraq) 4,000 to 5,000 years ago. The ancient Egyptians used wheat to make two staples, bread and beer, which fed the empire. The Fertile Crescent is the curved strip of arable land that connects Mesopotamia and Egypt through to the Levant (present day Lebanon, Israel, eastern Syria, eastern Jordan, and southern Turkey). Corn, the Amerindian maize, was planted in the culture hearths of Central America, including the Aztec and earlier Maya, Toltec, and Olmec cultures. The potato was the staple food crop of the Inca in the highland Andes. Yams (ones bigger than those you see today) were grown by the civilizations of West Africa such as the Songhai, in places such as Gao and Timbuktu. Rice was domesticated several thousand years ago in the Irrawaddy valley of present-day Burma (Myanmar) and later spread to the ancient culture hearths of China, Southeast Asia, and India.
11. **B** "Off-shoring," or the process in which companies move factories and facilities to foreign LDC locations, is most often the result of the need for cost reductions. The main cost factor is labor, which can eat up as much as 85 percent of the overall production costs. LDCs offer a primary advantage over MDCs in terms of far lower labor costs. Transportation access and access to natural resources, choices (A) and (D) respectively, can be important factors; however, these do not impact profitability as much as the cost of labor does. Choices (D) and (E) are opposite distractors when talking about LDCs. LDCs generally have far less regulation of industry and have much lower rates of technical skill and education in the workforce than MDCs.
12. **D** Suburban sprawl is a multifaceted problem with many geographical aspects. In this question, you must identify the one aspect that is opposite to the real world situation. Transportation access is a problem due to congestion and a lack of public transit. A social problem seen in suburban sprawl is the lack of diversity in the communities, which can further ethnic tensions in a country. Generally property taxes do not fully cover the cost of public services such as public education. Utility and communication access is far improved in suburban areas (the opposite of "limited"). Another complaint with suburban sprawl is the elimination of natural areas and animal habitat caused by new housing developments.
13. **B** The diagram shows the model known as the demographic transition theory. Population density would be shown in a dot-density map format. Malthusian theory would be a graph showing the relationship between food production and population growth. The rate of natural increase would be shown as percentage data, which is found by subtracting the death rate from the birth rate and dividing by 10. The total fertility rate will also be numerical data and will estimate the average number of children born to each female of birthing age in a population.
14. **A** First, look at the data in Stage 4 only. There, birth rates and death rates are very low and population has reached a plateau. Countries in Stage 4 would be First World countries only. Using POE, you can then eliminate Mexico, Brazil, and India. The two remaining answers, Sweden

- and the United States, are similar in terms of economic development. However, Sweden is a much smaller country, and shows more of the population effects of postindustrial society. That is, with most Swedish women in the highly educated labor force, very few remain at home as traditional housewives raising children, as is more common in the United States (despite the fact that many American women are full-time workers).
15. **C** Countries that would fall within Stage 2 have very high birth rates and declining death rates. This is characteristic of Third World countries, whose economies are mainly agricultural production, with limited mechanization. In these countries, children are seen as necessary farm labor—the more children you have, the more agricultural work that can be done, and thus the more food and money produced. Historically this was also the case in First World countries prior to the industrial revolution. Service-based economies are found in Stage 4, as they are “postindustrial” states. Heavy industry would be found in newly industrialized countries (NICs), Second World states (Stage 3), and First World states (Stage 4). High technology-based economies are often at the same time service-based economies, in Stage 4.
16. **D** Population growth is measured by the rate of natural increase, sometimes known as the natural increase rate. The simple formula for this is birth rate minus death rate divided by 10. Thus, the highest rates of population growth would be where first rates are the farthest from death rates at the same point on the diagram. Therefore, what you are looking for is the point where the birth rate line and the death rate line are the farthest apart vertically. This falls right on the border line between Stage 2 and Stage 3.
17. **D** More than anything else, the post-Columbian decline in population of Native Americans is the direct result of disease epidemics. European explorers and settlers brought with them Old World diseases to which Native Americans had no natural immune defense. Most Native Americans who contracted pathogens such as influenza, smallpox, and measles died because their immune systems had not been exposed previously, and therefore they had no genetic or immune resistance. Choices (A) and (C) were causes of mortality; however, the numbers of deaths combined pale in comparison to the impact of Old World diseases. Choice (B) was not a cause of Native American mortality at the time. Choice (E) is incorrect because government policies restricting fertility were more commonly imposed on African slave communities.
18. **B** Small family-owned farms face great difficulty competing with large-scale corporate agriculture in terms of being able to produce large quantities of crops at low cost and therefore remain profitable. By switching to specialty crops such as organics, farmers can vastly increase prices and thus remain competitive and profitable. Choices (A) and (D) are opposite from the reality of small family farming, as irrigation is a necessity in many areas and staple food crops do not bring high prices and they depend on expensive chemical inputs. Choice (C) sounds positive, as it is an environmentally wise decision, but it may not necessarily bring higher prices for the crops grown using this method. Choice (E) is incorrect because Third World countries will not be able to afford higher prices and are thus dependent on imports from large agro-industry corporations.
19. **E** The ethnic conflicts that emerged in the former Yugoslavia during the 1990s brought the issue of ethnic cleansing to the political and cultural forefront. In this case, ethnic groups often forced minority ethnic groups out of their homes and towns at gunpoint. Those who resisted paid with the destruction of their homes or with their lives. Insurgencies occur when there is

- armed resistance to a controlling government or military. Demilitarized zones are established to create a buffer between two belligerent states. Chain migration is where immigrants choose to move to a location where there are people of similar nationalities or backgrounds. Relocation diffusion occurs when an idea culture or technology relocate across a significant physical barrier such as an ocean or mountain range.
20. **B** This question requires you to identify the effects of deindustrialization on the labor force. The most commonly cited impact of deindustrialization is large numbers of layoffs, which occur in factories as manufacturing is moved from the First World to foreign locations. The other answers (A), (C), (D), and (E) are all opposites of the effects of deindustrialization. In reality, emerging service economies are highly dependent on technology and computers; agriculture continues to be important, but contributes comparatively minimal value to the overall economy (or, agriculture is a very small percentage of the GDP); the work requires higher education; and the number of available services increases due to their comparatively higher value and profitability compared to manufacturing.
21. **A** The revitalization of old central business districts after the “death of the American downtown” has been an important urban policy issue for the last few decades. Part of this is the gentrification of existing old industrial buildings into office space and residential units. To fill downtown office space, and to attract tenants who can pay for gentrified apartments and homes, city governments attempt to bring high-value service industries “back from the suburbs.” Traditional retailers such as groceries and restaurants are needed as part of this revitalization. However, the younger, educated residents tend not to be starting families and would not need the services listed in this answer choice. Younger, educated residents are not interested in working in manufacturing fields. Likewise, their labor is not required for transportation terminals.
22. **B** As a culture region, the American South, or “Dixie,” is just like any other culture region, which is typified by fuzzy border characteristics. Where the American South ends and the North begins is not so easily decided by political boundaries such as the Mason-Dixon Line, as in (E). Likewise, in the case of (C), political boundaries are poor indicators of a culture region boundary. Civil War-era border states such as Maryland and Virginia have taken on more northern cultural characteristics, whereas West Virginia, a union state, has increasingly gained Southern cultural characteristics over time. Choice (A) is incorrect because country music radio stations are found in all 50 states, and two of the largest attended NASCAR events are in California and Wisconsin. Choice (D) is incorrect because although peanuts and cotton are historically identified with the South, the largest cotton-producing states today are California and Arizona, which are decidedly not Dixie.
23. **E** The definition of a nation-state is a singular culture represented by a single government. Internally, the United Kingdom of Great Britain and Northern Ireland, as it is officially known, is made up of a number of indigenous culture groups or nations—English, Welsh, Scots, Irish, Manx, and other smaller groups. Too often, the United Kingdom is incorrectly associated only with England due to English being the common and official language. Although the United Kingdom is a member state of the EU and the concept of European Union citizenship threatens the identity of its citizens, this external situation does not threaten the internal concept of a nation-state. Nation-states are common in island countries such as Iceland, Tonga, and Japan. Historically, the British Empire has had a diversifying effect on the United Kingdom,

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as many immigrants have come from Commonwealth countries (former colonies) such as Nigeria, India, Pakistan, and Jamaica. The widespread use of the English language outside the United Kingdom does not threaten the internal possibility of a nation-state.

24. **A** This reverse-definition question requires you to place natural resource extraction with the traditional sector of the economy. Since mining natural resources is the first and initial step to producing goods, it is referred to as the primary sector. The resources are processed in the factories of the secondary sector, transported, wholesale, and then sold in the tertiary sector. Quaternary and quinary sectors provide corporate business and professional services to other parts of the economy.
25. **E** This definition-example question requires you to know that fall-line cities lie at the point on a river where oceangoing ships cannot sail further upstream due to upland waterfalls or rapids. The fall-line also marks the end of the estuary or tidal waterway leading to the ocean. Not only were these locations important transportation nodes as break-in-bulk points, but waterfalls also provided a source of kinetic waterpower for early factories at the start of the industrial revolution (prior to electrification). Choice (A) refers to large coastal port cities. The cities in (B) are important industrial cities of the twentieth century Rust Belt or American Manufacturing Belt. The places in (C) are all river ports on the Mississippi. Choice (D) are all coastal ocean ports on the Pacific.
26. **B** The question asks which actions can increase the sustainability of large cities with sprawling suburbs. Or, what can be done to reduce transportation and housing congestion and reduce government costs? There are a number of major issues associated with sprawl, including land use, transportation, schools, recreation, and the revitalization of old downtowns. Constructing public transit increases the sustainability, or livability, of a suburban area. The other answers are all opposite—ones that decrease sustainability. Sustainable land use would use less agricultural land and less parkland. Even over the long-term, the costs of education programs and new school construction generally exceed the property taxes collected on new homes. Downtown parking would be counter to sustainability, as this would increase the number of cars on the road.
27. **C** Despite the risk of accidents and costs associated with nuclear waste, there are two positives to the use of nuclear power. One is that nuclear plants do not release carbon emissions into the atmosphere, and therefore have limited impact on global warming. The second is that nuclear fuel can be reprocessed and is thus considered a renewable, long-lasting energy. The problem with reprocessing fuel is that it often creates weapons-grade plutonium, which can present a security risk. Thus, (D) and (E) are plausible answers, but *not the best* answer for this question. Nuclear power plants are extremely expensive to build. Underground storage as a possibility for nuclear waste has yet to be proven viable either from an engineering or policy standpoint.
28. **A** This question requires you to know the technical geographic definition for the term "place." Although all the answers could be a common definition for place, (A) most closely represents the generalized textbook definition. Consider that there are many different types of places and that the non-specific definition may work best when there is little specificity in the question. Choice (B) is transportation-specific. Choice (C) is environmentally specific. Choice (D) is focused on urban geography. Choice (E) refers to settlement and labor, and nothing else. There are places where people don't live or work.

29. D The question provides you with both the term and the technical definition, but asks you for the formulaic definition from a basic mathematical standpoint. Actual doubling times can be calculated using complex formulas that resemble inflation calculations. However, the easier way to get a rough estimate of doubling time is to divide 70 by the rate of natural increase. The other answers are merely speculative and none of them represent a formulaic definition for any population statistic.
30. C Plantation agriculture almost always means producing food for wholesale processors and for export. Subsistence agriculture is farming solely for the household or local community. Import substitution is the manufacture of goods internally instead of purchasing them from foreign producers. Specialty agriculture requires growing highly specialized crops in generally smaller quantities, such as organics, delicacies, and special varieties. Value-added agriculture is the processing of raw agricultural goods on the farm, such as cheese and wine, to give them additional value.
31. C All the cities listed in the answers are from the United States and Canada. Each is a set of three place names from the same linguistic origin. Choice (A) gives all places in New England, which have English place names. Choice (B) gives all places on the West Coast; all have Spanish place names. In (C), the first two locations are in Québec, and the third is in Illinois. Choice (D) gives all Scandinavian place names from Delaware and the Virgin Islands. Choice (E) gives all Native American place names.
32. E By definition, polytheistic religions are belief systems based on multiple supreme gods. Of those on the list, only Hinduism qualifies by having a small number of supreme deities, such as Vishnu, Shiva, and Brahma. Each of the other answers have lesser supernatural deities (such as angels or saints) in their cosmography but only one supreme deity, making them monotheistic.
33. A Animistic religions such as those found in Native American cultures and in West African voodoo are based on items in nature having spiritual value. Syncretic religions are ones that have integrated the beliefs of two or more other religions. An example would be Sikhism in India, drawing from both Hinduism and Islam, or the Druze of the Levant, whose beliefs draw from both Christianity and Islam. *Infidel* is a derogatory term used to describe those who do not share the belief system of the main group. Although many of the world's tribal groups have animistic beliefs, they are identified as a social unit, not a religion. Hybrid religious practices can describe the syncretic or involve the worship of two or more religions simultaneously.
34. D Nationalism for many groups creates a social bond between the group's many individual members. From a political geography standpoint, centripetal forces are those that hold the social fabric of the state together. Thus, a singular nationalist ideology is a centripetal force, as opposed to a centrifugal force, which tears apart the social fabric of the state. Note the way the question is worded; it does not introduce the possibility of competing culture groups (nations) within the state. Choices (A) and (B) are factors that play a role in rural-to-urban migration. Physical geographic factors can play an effective role in nationalism, such as natural disasters, and are often centrifugal forces at the same time.
35. A Like the term *nation*, the *state* is a political geographic term with a specific definition, different from how it is used in common everyday speech. The state implies not only a level of

- government but also a defined territory of land. Choice (B) is incorrect because federations or confederations like the United States or Brazil are made up of a number of states under a unitary federal state or an umbrella government. Choice (C) is the definition for nation. Choice (D) is a definition for a nation-state. Choice (E) is a distractor meant to catch people who have not been trained on the technical definitions of these seemingly common terms.
36. **B** This definition-example question requires you to know the definition of a supranational organization and be able to identify examples of supranational organizations that are mostly economic in purpose. These supranational organizations are primarily military or strategic in their purpose. The UN is a multipurpose organization with some economic responsibility, and the Red Cross serves mainly as a relief organization. Stock exchanges are purposefully economic organizations. However, they serve the national economic interests only of the countries in which they are located. The League of Nations, like the UN, was a multipurpose organization with only a limited economic role.
37. **E** This definition-example question requires you to know the concept of value-added agriculture and to apply the proper examples. All of the examples in (A) through (D) are standard forms of primary agricultural products that are most often sent to secondary facilities to process the foodstuffs. Cheese and wine, by contrast, are made from products that are most often harvested or collected on the farm and then processed into secondary goods on the farm, thus adding financial value to the farm's output.
38. **C** The population characteristics of newly industrialized countries (NICs) can be visualized in the demographic transition model as falling on the border of stage two and stage three. That is, NICs are moving from a primarily agricultural to a manufacturing-based economy. At this point on the demographic transition model, birth rates are high and death rates are low. As a result, the rate of natural increase is at its highest. In other words, these countries have very high population growth rates. Another aspect of NICs is that manufacturing develops mainly in cities. Therefore, many people are moving from rural areas to cities to find jobs. All NICs experience rapid rural-to-urban population shifts, much like what was experienced during the 1980s and '90s in Mexico or presently in India.
39. **D** In this EXCEPT question, you find that Singapore can be classified as many things, but you have to identify what it cannot be classified as. This type of question is almost the reverse of a definition-example question, and requires you to know the definitions of several terms to apply to a single example. As an entrepôt, Singapore has the economic purpose of importing goods and then re-exporting them at a higher price to other parts of the world. Singapore is an island that sits off the coast, very close to, but not on, Malaysia. Despite its economic importance, Singapore is a very small piece of land, and like Monaco or Brunei, it is considered a microstate. Although Singapore was once part of the British Empire, it has since received its independence (1965), and thus can no longer be considered a dependent territory of the British Crown—an example of a British dependent territory would be the Falkland Islands, St. Helena Island, or Anguilla (Hong Kong was a dependent territory prior to its reintegration with China in 1997).
40. **B** This NOT question is a slightly different version of the definition-example question. Here you have to visualize the map in your mind. New York is part of the northeastern megalopolis the United States, which is an urban and suburban landscape that stretches from southern

New Hampshire to Richmond, Virginia. Paris is the center of a large metropolitan area, but has not met the definition of the megalopolis because it has not merged its urban landscape with any other larger metropolitan areas. Another giveaway is that Paris is a primate city, and thus is much larger than the next largest city in France, Lyon, which is far to the south. Tokyo is also a large city in its own right, and has merged its metropolitan area with neighboring Yokohama and thus qualifies as a megalopolis. Likewise Osaka has merged with neighboring Kobe. Over a hundred years ago, Essen merged with the neighboring city of Dortmund during the height of urban industrial growth in late-1800s Germany.

41. D The question here asks you to visualize the Ford Griffin model of the Latin American city. Think about the difference between the Latin American city and the Anglo-American city in the United States and Canada. In the Latin American city, the wealthy tend to live in the center of the city due to historical reasons, like the Laws of the Indies, which segregated the inner city for Europeans and required non-Europeans or people of mixed descent to live on the outskirts. Today, wealthy urban Latin Americans also find social status by living close to the center of the city, or on the "spine" boulevards leading away from the city center. By comparison, in the Anglo-American city models (such as the concentric zone model), the wealthier residents tend to live on the outskirts; that is the periphery. Again, the theme of core and periphery is important here. When poor Latin Americans migrate from rural areas to cities, they commonly find that there is no available housing for them once they arrive. Thus, it is necessary for them to establish their own squatter settlements on the urban periphery.
42. B In the post-World War II American housing boom, a number of factors came together that increased the overall percentage rates and home ownership within the general population. One often-cited reason is the mass production techniques used to produce large numbers of homes, such as what was seen in the Levittowns. However, to pay for all this, the U.S. federal government guaranteed home loans to returning war veterans and established a number of other federal programs that increased access to credit for first-time homebuyers. (A) Think of land prices in First World countries as continuously rising over time. Rarely do land prices ever decline significantly. (C) Even though credit cards became widely available in the 1970s and 1980s, they have no practical use in purchasing homes. (D) The interstate highway system was another post-World War II development in the United States. Although some highways made access to suburbs much easier, the highways themselves were not a "financial factor"; they are instead considered *infrastructure*. (E) Likewise, high levels of farm production created little access to capital in the post-World War II era. The booming number of manufacturing and white-collar jobs meant much more to the financial success of the American middle class, who led the suburban migration.
43. C This pure definition question uses several similar distractors. These test your ability to weed out the finite details within the multiple-choice answers. When you hear fertility, think mothers, not fathers so eliminate (A). Choice (B) is the definition for the rate of natural increase, which is an annual statistic that uses data from one-year periods. By comparison, the total fertility rate is more of a running estimate, or a snapshot of fertility at a given time. In (D), the term *the total number* should turn you away from this answer. This would not imply a "rate," which would be represented more by an average or index. Choice (E) is a verbal definition of the replacement rate, which would be a total fertility rate of 2.1.

44. E Resistance to the creation of the EU has been limited and is better represented by a series of complaints from EU citizens about this new form of supranational governance. These issues include higher taxes like the value added tax (VAT), the loss of government sovereignty, and the *loss of local identity*. The concepts of citizen status and passports are symbolic to the national identity of European nation-states like France, Italy, or Germany. Others are concerned that smaller nations such as Wales in Great Britain, Breton in France, or Friesland in the Netherlands will be further covered up and disintegrated by the notion of Europeanism. Choice (A) describes a labor economics issue, as opposed to the cultural issues in the question. Likewise, Choice (B) is more of a political geographic category. Choice (D) is in some way parallel with the concept of the supranational state, as networking tends to further erode national borders. Choice (C) would be an economic complaint.
45. A Keep in mind that von Thünen's model follows the general pattern of the central place theory and shows core-periphery relationships. Like the similar concentric zone model, von Thünen's model is economic in nature, and places the economic center—the town, village or city—at its core.
46. C The economic part of von Thünen's model is based on a labor-intensive nature of agricultural land use. The most intensive labor—the types of crops that require the most attention—must be located close to the place of residence. For example, perishable foods such as dairy products, which required the daily milking cows and that were also perishable, were often located next to the place of residence to minimize loss from spoilage. Vegetable gardens, as opposed to staple plant crops like wheat, had to be tended almost daily to remove pests such as weeds or insects, and needed to be picked fresh from the vine or tree. Therefore, market gardens would be inside, or just outside, the town village or city.
47. E The least intensive agriculture requires minimal human labor inputs. Grazing took place on the farthest and least productive lands. Animals also needed to move from pasture to pasture. Think of a shepherd sleeping with his flock. The young men in this role were often too far from town to go home at night. However, they were not alone. For centuries, herding dogs aided shepherds and thus reduced the need for human labor inputs and provided additional protection for livestock from predators. In this regard, one person could raise and harvest a single product.
48. C In the geographical or *spatial* analysis of a population, we use different *scales of analysis*, also known as *levels of aggregation*. When examining a quantitative population issue, ask what scale of analysis is being used. Is it a county, state, or something smaller such as a census tract? Scale matters, because we cannot numerically compare data from different scales; data analyzed using one scale may produce different numerical results than when analyzed using another scale. Choice (A) shows different classifications of financial capital. Choice (B) has examples of ratio-based map scales. Choices (D) and (E) refer to gender, age, or ethnicity categories, which are not related to scale.
49. A Any quantity of mineral or energy resource that is underground is a *reserve*. The difference between *proven* reserves and *potential* reserves is that a proven reserve has been explored and scientifically analyzed by geologists, who can then give a more accurate estimation of the resource contained within. By comparison, the potential reserve is a known resource that has not been fully analyzed for its volume or quantity. "Surplus" generally refers to an available

good or resource that has already been extracted. Consumption volumes would be measured on the resource-usage end. Production would be measuring a natural resource as it is being extracted from that reserve resource area.

50. **B** This cause-and-effect question gives you the effects and asks you to identify the cause. All the potential answers are related to air pollution to some degree. Acid rain is a specific form of air pollution, which generally is the result of burning coal that contains sulfur impurities—like much of the coal mined in Appalachia. If the sulfur is not removed by expensive scrubbing devices or if the coal does not come from low sulfur deposits, such as those in Wyoming and Montana, then sulfur emissions from smokestacks can mix with water vapor in the air to create sulfuric acid. In cloud layers, this sulfuric acid can form a solution with water and form rain droplets, which then deposit the acid in forest and in lakes. The increased acidity can then harm vegetation and small animal species. Choices (A), (C), and (D) are all forms of pollution that increase carbon emissions and contribute to global warming. Choice (E) is incorrect because water vapor emissions from the cooling towers of any type of electrical plant (coal, nuclear, or geothermal) can also produce water vapor, which contributes to the greenhouse effect and thus, global warming.
51. **D** Traditional *industrial location theory* applied to manufacturing examines the location of factories in relation to resource deposits. The least-cost location for a multiple-resource factory is in terms of its relationship to natural resources. Factory location is most highly influenced by the location of resources that are mostly lost in the production process. In the case of steel manufacturing, Pittsburgh is an optimal location due to the ready availability of water from the city's three rivers; the limestone geology of the local area; and the nearby coal deposits of the Appalachian Mountains. Iron as a "low-loss good" is the most valuable resource in the production process, and can thus be transported over a much greater distance, such as the iron fields of northern Michigan, Wisconsin, and Minnesota.
52. **D** The notion of cultural identity changes from region to region around the world. In Anglo-North America, individualized race and ethnicity are the most common means of identification. However, in Latin America, mixed identities are far more common. Understanding the origins and the degree to which an individual is mixed play an important role in cultural identification and position in Latin American society. The most common mixture in Latin America is the mestizo, which is derived from a mix of European and Native American. Choice (A) would most likely be represented by a group like the Garifuna of the southern Caribbean and Central American coasts, who are a mix of Carib Native American and African. Choice (B) is a distractor that attempts to focus you on the large Hispanic population in California. Choice (C) would be identified as mulatto. Choice (E) is not a particular ethnic mixture found in Latin America.
53. **C** The concept of absolute monarchy is part of understanding the political economy of feudalism. Absolute monarchies are characterized by a supreme ruler who does not share power with a parliament or legislature, and few exist today. The United Kingdom and the Netherlands are both constitutional monarchies, where power is shared between the monarch and the parliament. Japan was a monarchy prior to World War II. Also prior to World War I, Turkey and Egypt were both formally part of the Ottoman Empire, which was part absolute monarchy, part theocracy. Today, these two countries have no monarchy.

54. E This cause-and-effect question is directed towards the study of age structure in the population, as well as the factors that influence infant mortality. As a population becomes healthier, their environment becomes cleaner, and nutrition improves. People live longer and are less likely to have complications during pregnancy. You can eliminate (A) because fertility rates increase and birth rates are relatively higher in Third World countries where health care, sanitation, and nutrition tend to be comparatively low. You can cross out (B) and (C) because increases in health care systems alone would lead to increased life expectancy. Likewise, in (D), these improvements lead to decreased infant mortality; that is, fewer newborn children dying of disease and malnutrition.
55. A Race is an often-discussed concept, that has many difficult dimensions to it. However, the concept of race in scientific terms is purely physiological, based on the genetic, not geographic, origin of an individual person. For instance, whites born in South Africa and Namibia consider themselves "African," though we would racially call them Caucasian. Likewise, Persians, Bangladeshis, and Japanese are all geographically Asian. The terms *Caucasian* (European), *Mongoloid* (Asian), and *Negroid* (African) were developed in 1800 by physical anthropologists in an attempt to classify the human species. Unfortunately, this science was based on the ideology of environmental determinism, which led people to reinforce (the now-considered negative aspects of) racism.
56. C Ratzel is credited for bringing the science of geography into the modern (contemporary) era by going beyond the old traditions of exploration and mapping. He formalized human geography as a scientific study of peoples and places in the late 1800s. Choice (A) would be the answer if you are asked about the British geographer Halford Mackinder. Choice (B) is incorrect because the Berlin conference (a distractor for Ratzel's German name) was convened by a group of diplomats. Choice (D) would be correct if you were asked about E. W. Burgess. Choice (E) was a military strategic goal of the Nazi party in the 1930s.
57. B Here's one of those cultural geographic questions that ask you to know something about symbolic architecture and religious holy places. In the picture, you know there is a mosque of some sort. This one happens to be an open-air mosque with a large black structure in the middle. This is unique only to the Al-Kaaba in Mecca, which is considered the most holy place in Islam. For this type of question, also be able to recognize the Dome of the Rock in Jerusalem, which is an eight-sided building with a central dome and sits atop the Temple Mount and next to the Al-Aqsa Mosque building.
58. D This question tests your ability to recall the five pillars of Islam. The five pillars are a moral code (in some ways similar to the Judeo-Christian "Ten Commandments"). One of the five pillars requires all Muslims to make the Hajj, a pilgrimage to Mecca, at least once in their life. (A) is a distractor that tests the detail of your knowledge of the five pillars. Choice (B) would best describe the Temple Mount in Jerusalem. Choices (C) and (E) are distractors that attempt to trap you had you chosen Istanbul on question 57.
59. E This definition question uses the term "best," so you need to be careful as you examine the possible answers. Choice (A) would be better described as "urban renewal," as it is government-led development of stadiums—or infrastructure. Choice (B) describes industrial investment. Choices (C) and (D) describe developments in suburban areas, which is generally not where gentrification happens. Gentrification is still most likely to happen in old

- neighborhoods close to the center of the city. Choice (E) best describes gentrification, as it is most likely privately funded development, and regardless of where it occurs, basically involves reinvestment and reconstruction of existing buildings.
60. **A** This is a cultural geography question that deals with both factual history and the construction of mythic folklore. As you should know, Columbus was not the first European to explore the Americas. Take, for example, the Viking settlements in Newfoundland, around 1000 C.E.; thus, this is a historical mistake and not a fact, as in (B) and (E). Choice (C) is incorrect in that Columbus's voyages did occur, and were not myths. Choice (D) is historically inaccurate because longitude was not accurately calculated at sea until the late 1700s, after the development of accurate chronometers, or clocks which used gears instead of pendulums to keep time precisely at sea. Focus on the facts in the answers.
61. **B** This is a basic geography and mapping question. Choice (A) is a distractor, as the Prime Meridian is derived from Greenwich, a suburb of London where the Royal Naval Observatory is located and which was used as a point of origin for navigation by the Royal Navy. Choice (C) is a distractor using the prime concept of mathematics. Choice (D) is the Tropic of Cancer. Choice (E) is the line opposite the Prime Meridian, which is used as the international dateline.
62. **D** This question tests your understanding of the geography of service industries and high technology. Silicon is an element, and silicon oxide is what sand, glass, and the structural frame of microchips are made of. Silicon Valley is the area south of San Francisco, which includes places such as Palo Alto, where Stanford University is located, and is home to several high-tech firms such as Hewlett-Packard and Google. Hyderabad, India, in the south of the country, has likewise become the technology development center of South Asia. It is home to many companies that provide customer service call centers for consumers in MDCs.
63. **E** This definition-example question does not use the term *Communism*, and instead utilizes the political-economic term *Marxist socialist*. Note also that the modifiers "current" and "hard-line" are used as well. All of the countries listed in (A), (B), (C), and (D) are former Marxist-socialist states. The only two remaining true "hard-line" Marxist-socialist (or communist) states are North Korea and Cuba. By exception, the People's Republic of China and Vietnam are states controlled by Communist parties, but are not considered hard-line as both have accepted free-market economic reforms.
64. **B** This definition-example question regarding the "Columbian exchange" asks you to specify which products went from the New World (the Americas) to the Old World (Europe) after permanent settlement was established by the Spanish on the mainland Americas in the early 1500s. All the other answer choices are incorrect: There were no horses or chickens in the Americas prior to the 1500s. The noodle was developed in China. Coffee was domesticated in the Middle East.
65. **E** The picture depicts mechanized agriculture, which implies large-scale production typically found only in First and Second World states. The picture shows a combine harvester, which is used to collect crops such as wheat, corn, and soybeans that are typically grown in the United States and Canada (First World) and in the former Communist states of Russia, Belarus, and Ukraine (Second World or former Second World). The typical agriculture found in LDCs remains today focused on human labor for the harvest of staple food crops.

66. C Combine harvesters, which have large paddle wheels on the front, are used to harvest grain crops, which grow on stalks. Tubers, such as potatoes, would require a harvester to have several row plows used to dig up spuds from under the soil. Paddy rice would be harvested from drained ponds where the rice was grown—dry-land rice (like what is grown in the United States) can be harvested using a combine. Summer vegetables and fruits tend to be gathered by hand, even in the First World.
67. E An environmental impact associated with mechanized farming is its dependency on petroleum-based fuels, namely gasoline and diesel, to power machinery. When combusted, these fuels produce carbon-based emissions that lead to global warming. Choices (A) and (D) are energy sources primarily used to produce electricity. Choices (B) and (C) are energy sources that are increasingly used in vehicles and mechanized equipment, but still make up a very small proportion of the overall vehicle fuels used in mechanized agriculture.
68. C The Green Revolution represents a historical turning point away from archaic agriculture in the Third World and toward the incorporation of modern First World agricultural techniques, namely pesticides, fertilizers, hybrids, and mechanization. Low-cost human labor is a part of Third World agriculture (on a decreasing basis, yet still a critical element, as it has been historically), but not a component of the Green Revolution.
69. B This question asks about migration within the British Empire between the early 1800s and early 1900s, when the British controlled India. Skilled and educated Indian laborers were sent to other parts of the empire to fill shortages in engineering, rail, and mining operations. (A) This could be seen as a type of relocation diffusion, but the question asks what the communities are a *result* of, not an example of. (C) Hindu religious expansion would be better shown in places such as Bali in Indonesia, not far-off places such as Guyana in South America. (D) is incorrect, as Guyana and Fiji are not high-tech development zones. (E) Rural-to-urban migration is not generally responsible for migration to countries as a whole, but instead applies to specific cities.
70. C This definition question requires you to identify a term among similar-sounding concepts. Choice (A) is incorrect because elasticity from a spatial perspective would describe an ability to stretch out contact over variable distances. Choice (B) refers to impediments and barriers that increase the relative distance between two points. Choice (D) refers to the separation of people based on their characteristics, such as ethnicity. Choice (E) refers to expenses incurred for the on-loading and off-loading of goods, imports, or other break-in-in-bulk points.
71. A Although there are a number of caste-based societies around the world, the largest and most commonly discussed are the Hindu in India. Caste is different from economic *class* as it is based on birth into a particular level of society, in which one stays for the remainder of their life. In Hindu beliefs the caste system is based on multiple levels of existence to which humans can be reincarnated, based on an individual's level of karma. In basic terms, if you live a good and moral life (collecting good karma), when you die and are reincarnated, then you can be born into a higher caste in your next life.
72. C Population centers (cities) in Canada tend to be located on ports and waterways. However, this does not explain other population centers such as Edmonton, Alberta, or Sudbury, Ontario, which lie landlocked in the middle of their provinces. These are resource node locations for petroleum and mineral extraction, respectively. As for (A) and (E), grain production

and hydropower dam sites tend to be in sparsely populated regions. Choice (B) is incorrect because it is a common misunderstanding in the United States that Canadians want to live close to the U.S. border, when in reality, the physical geography of waterways and resource locations are a better explanation for population location in Canada. Choice (D) might explain the early frontier settlements such as trading posts, but are not related to the origins of cities in Canada.

73. C The diagram shows the city landscape divided into geometric sectors, but these lack nodes on the urban periphery necessary for the galactic city model or other multiple-nuclei models or edge cities. Choice (B) would represent and divide the city into multiple rings. Choice (D) would at minimum show a map of Europe and Asia. And (E) would be centered on Europe and Asia but show the whole earth's surface.
74. D Industrial zones are mainly located next to the central business district, and realistically are long, column-shaped areas that follow transportation corridors such as rivers or railways. A new CBD, suburb, or Third World squatter settlement would be on the outer part of the model, the *periphery*. Urban models tend not to show forest or parkland—this would be found solely on von Thünen's model.
75. E It is important to notice that area in question, Z, is the largest of the polygons in the model. The largest culture group in North America (and for that matter, North American cities, including their suburbs) are white Anglo-Saxon Protestants, otherwise known as WASPs. Ethnic neighborhoods would hold a similar position on the model. However, it would be much smaller in comparison to area Z. As in question 74, urban models tend not to show forest or parkland—this would be found on von Thünen's model.

SCORING AND SAMPLE ESSAYS FOR SECTION II

Do yourself a favor and don't read this section until you have completed the practice test.

You will now have a chance to take a look at the scoring rubrics, the answer key for the essays, and sample essays for the questions that you completed. After showing you the rubric, we will show you what an average essay looks like; that is, a typical low-scoring essay. Then we'll show you the same essay, slightly modified, that scores much higher on the rubric.

Once you've read the rubric, the average essay, and the improved essay, go through both essays and write a shorthand outline of the material that you see. Compare these two outlines to see what different keywords and example sections are added to the improved essay. Then do this for each of the other essays. This should give you a sense of the detail necessary in your shorthand outlines to write high-scoring essays on the AP Human Geography Exam.

BE THE RUBRIC

Afterward, do the same with the essays that you wrote during the timed exam. Rewrite the same essays, adding the additional elements you gained from the rubric, and construct essays that earn full points. By knowing what top-scoring essays look like and training yourself to write more detailed essays, you will score well above average.

SCORING RUBRICS FOR FREE-RESPONSE QUESTIONS

1. Using the map above, address the following:
 - A. Explain how the concept of arithmetic density is expressed on the map.
 - B. Describe how the concept of physiologic density can be used to describe the pattern on the map until the 1950s.
 - C. Using one historical example, explain how the pattern on the map changes after the 1950s.

Rubric

1 + 3 + 3 = 7 Points

- A. 1 point for the definition of arithmetic density (population per unit of land), must reference graph
OR 1 point for the concept of the population centroid (weighted center of the population distribution within the boundary of the state), must reference map
- B. Physiologic density—the population per unit area of arable (farmable) land
Examples below must be pre-1950:
 - 0 points for no description of physiologic density
 - 1 point for a basic definition of physiologic density, or pattern of westward expansion
 - 2 points for definition incorporated into basic description of westward expansion
 - 3 points for definition incorporated into complex explanation of the changing patterns of American agriculture into the available land west of the Appalachian MountainsOR
Immigrants moving into Midwest/plains to farm in numerous historical waves.
- C. Frostbelt to Sunbelt shift
 - 0 points for no description of post-WWII internal migration
 - 1 point for a basic description of post-WWII internal migration
 - 2 points for description of post-WWII internal migration with one cause or basic factor
 - 3 points for complex description of post-WWII internal migration with multiple causes or factors that influence migrant's decision-making.
Better climate; health reasons (allergies, arthritis); higher pay opportunities in service industries or aerospace manufacturers; loss of manufacturing jobs in Frostbelt; retirement locations such as Florida and Arizona; defense industries and military concentrated in Sunbelt states after WWII; companies move to Sunbelt to find cheaper non-union labor and decreased environmental and labor regulations.

2. Explain the shift in manufacturing locations from First World to Third World during the 1970s to the present. Comparing the conditions between MDCs and LDCs, give **TWO** examples from each of the following factors to illustrate your answer:

- A. Labor
- B. Government regulations

Rubric

4 + 4 = 8 Points

For each section (a) and (b):

0 points for no valid factors

1 point for a simple factor statement or keyword

2 points of a cause and effect-type discussion of each factor's impact on facility relocation

+

0 points for no additional valid factors

1 point for a second simple factor statement or keyword

2 points of another cause and effect-type discussion of each factor's impact on facility relocation

= 4 points per section, maximum

A. Labor factors: Companies sought lower cost locations in LDCs for

<u>Factor</u>	<u>Causation</u>
Salaries	High in MDC, low in LDC
Benefits	High in MDC, low in LDC
Unionization	High in MDC, low in LDC
Skills/knowledge/automation	Jobs were de-skilled making them possible for less-educated workers and highly educated workers were over-qualified or redundant.
Economic Imperialism	Labor in LDCs were less likely to challenge corporate management; were seen as more pliable and willing to work under more severe conditions.

B. Government Regulation factors: Companies sought less-regulated and, therefore, lower-cost locations in LDCs for

<u>Factor</u>	<u>Causation</u>
Labor Rules	Age (youth labor) and workday rules not enforced.
Environment	Pollution regulations not enforced.
Safety Regulation	Workplace and highway safety rules not enforced.
Corruption	Companies could pay off foreign officials to ignore regulations or negotiate taxes.
Trade restrictions	Companies could avoid tariffs and other restrictions by using suppliers in favored LDCs

3. Summarize the theoretical process described in the graph as it was presented by Thomas Malthus. Using the graph and historical examples, explain why Malthus's prediction has not occurred. What arguments do neo-Malthusians make as a warning?

Rubric

1 + 4 + 3 = 8 points

A. Summary (1 point)

Malthus's proposition was that increasing global population would exceed the global ability to produce food (1 point).

B. Malthusian Data Analysis (4 points)

Example 1 (2 points) + Example 2 (2 points)

Possible explanations: (only 2 points per line)

1. Increased use of mechanization to increase food production or transport food
2. Use of chemical fertilizers to increase food production
3. Use of pesticides to increase food production
4. Use of hybrids to increase food production
5. Use of genetic engineering to increase food production
6. Expanded areas of irrigation to increase food production
7. More ecologically friendly farming practices (soil conservation, erosion controls, crop rotations) that increase food production (organics do not count as it causes a decrease)

C. Neo-Malthusian Arguments (3 points)

1. Identification of neo-Malthusian ideology as a modern iteration of Malthus's ideas. (1 point)
2. Possible warnings (2 points possible). One from each of the following (one point each):
 - a. Continuation of potential food crisis in the face of overpopulation; or, population exceeding the global carrying capacity.
 - b. An energy crisis as the result of the inability to meet the global population for energy resources.
 - c. Destruction of the earth's natural habitats as a result of a global over-dependency on natural resources.
 - d. Armed conflicts as a result of food, resource or land limitation or crisis as a result of over-population

FREE-RESPONSE QUESTION SCORE SHEET

1.	a.	b.	c.	Total
	0 or 1	0, 1, 2 or 3	0, 1, 2 or 3	out of 7
	+	+		=
<hr style="width: 100%; border: 0.5px solid black;"/>				

2.	Labor 1	Labor 2	Gov. Reg. 1	Gov. Reg. 2	Total
	0, 1 or 2	0, 1 or 2	0, 1 or 2	0, 1 or 2	out of 8
	+	+	+		=
<hr style="width: 100%; border: 0.5px solid black;"/>					

3.	Summary	Ex. 1	Ex. 2	Def.	Warnings	Total
	0 or 1	0, 1 or 2	0, 1 or 2	0 or 1	0, 1 or 2	out of 8
	+	+	+	+		=
<hr style="width: 100%; border: 0.5px solid black;"/>						

Total Points out of a possible 23, with a goal of at least 14 points (60.8 percent).

SAMPLE ESSAY I

1. The map above of US Population Centroids illustrates the westward movement of the center of the population of the United States. In particular, the concept of arithmetic density is expressed on the map at each individual spot on the map at a particular time in history. Each dot represents the "center" of the population in each decade from 1790 until 1990—that is by averaging the population along both lines of longitude and latitude, one is able to pinpoint a specific spot on the map. For example, the map shows the arithmetic density of the population in 1880 to be at the junction of Indiana, Ohio, and Kentucky. This does not mean that the majority of the nation's people live in this location. On the contrary, this spot means that in the year 1880, half of the population of the United States lives north of this point and half lives to the south. In addition, half of the population lives to the east of the Ohio/Indiana border and half lives to the west.

The US Population Centroids map also illustrates the more fluid concept of how the physiologic population density has changed over the past 200 years. On its most basic level, there is a clear westward movement of the center of population as the years progress. Until the 1950s, this westward movement appears to be in a straight horizontal line. Although there is clear migration westward, there does not appear to be any major changes in north to south population density. There is a significant change in the map after 1950, however. The center of population shows a definite west southwest movement beginning in 1960, which is interpreted to mean that not only are more and more people moving west but also to the south. Historically, this coincides with the development of the "Sunbelt" which occurred in the years following World War II. Improving economic conditions and international relations following the war led to a general positive feeling among Americans.

Let's see how this essay scored from the rubric:

1.	a.	b.	c.	Total			
	$\frac{1}{0 \text{ or } 1}$	$+$	$\frac{1}{0, 1, 2 \text{ or } 3}$	$+$	$\frac{1}{0, 1, 2 \text{ or } 3}$	$=$	$\frac{3}{\text{out of } 7}$

Now let's look at a higher-scoring version of this essay:

1. The map above of US Population Centroids illustrates the westward movement of the center of the population of the United States. In particular, the concept of arithmetic density is expressed on the map at each individual spot on the map at a particular time in history. Each dot represents the "center" of the population in each decade from 1790 until 1990—that is by averaging the population density from across the country. For example, the 1880 point at the junction of Indiana, Ohio, and Kentucky, does not mean that the majority of the nation's people lived in this location. On the contrary, this spot means that in the year 1880, this where the spatial average of the population from across the country was located.

The US Population Centroids map also illustrates the more fluid concept of how the physiologic population density has changed over the past 200 years. On its most basic level, there is a clear westward movement of the center of population as American history progressed. Until the 1950s, this westward migration was the result of people settling from the Midwest, and further westward over time, to settle on available farmland. As physiologic density measures people per square mile of farmland, the map not only represents arithmetic density but also the physiologic influence of farmland to westward expansion in the United States.

There is a significant change in the map after 1950, however. The center of population shows a definite west southwest movement beginning in 1960, which is interpreted to mean that not only are more and more people moving west but also to the south. Historically, this coincides with the development of the "Sunbelt" which occurred in the years following World War II. Many people and companies sought to move southward with the decline of manufacturing in the northeastern "Frostbelt." Many new service industry firms and high-tech manufacturers located in places such as Atlanta, Phoenix and the San Francisco Bay area. Along with this economic change a desire by many Americans to live in a more comfortable southern climate.

ESSAY 2

2. There has been a clear shift in manufacturing locations from First World to Third World countries in the past 40 years. There are many reasons for this shift, but the differences in both labor and in governmental regulations between the more and less developed nations allow goods to be produced more inexpensively in the LDC's. This drop in production cost is at the core of the shift in manufacturing locations.

Labor is both more available and less expensive in Third World locations. Manufacturing jobs in general do not require a high level of education to perform. After minimal on the job training, most people are able to perform the simple tasks required of manufacturing jobs. As a result, these jobs are not seen as particularly desir-

able, especially among more educated populations, and are often difficult to fill. Labor—particularly unskilled labor—is more available in lesser developed nations where population numbers are higher in general and education is not as available. In addition to greater availability, labor is much less expensive in Third World locations. This is due to a number of factors—among them are the lower cost of living and the lack of a nationally regulated “minimum wage” in lesser developed countries.

In addition to the differences in the availability and cost of labor between First and Third World nations, there is also a significant difference in the regulations which has led to the outsourcing of manufacturing jobs to lesser developed areas. More specifically, labor regulations are much less controlled, which allows goods to be manufactured at a lower cost in LDC's compared to MDC's. Minimum wage laws (which were mentioned above) and also laws regarding child labor and the maximum number of hours per week an employee is allowed to work are absent or only loosely enforced in LDC's. Incidentally, the goods from LDC's are often of inferior quality as well, but quality is often secondary to a lower bottom line in today's particularly competitive manufacturing economy.

2.	Labor 1	Labor 2	Gov. Reg. 1	Gov. Reg. 2	Total
	2	+	1	+	2
	0, 1 or 2		0, 1 or 2		0, 1 or 2
			+	2	+
				0	=
				0, 1 or 2	5
					out of 8

Now let's look at a higher-scoring version of Essay 2:

2. Reductions in production cost is the root cause of the shift in manufacturing locations. Labor is both more available and less expensive in Third World locations. Manufacturing jobs in general do not require a high level of education to perform. After minimal on the job training, most people are able to perform the simple tasks required of manufacturing jobs. As a result, these jobs are not seen as particularly desirable, especially among more educated populations, and are often difficult to fill. This unskilled labor is more available in lesser developed nations where population numbers are higher in general and education is less available. In addition to greater availability, labor is much less expensive in Third World locations. This is due to a number of factors among them, a national-scale lower cost of living. Workers need less to live on in the Third World and, as a result, are willing to work for far less while maintaining a reasonable quality of life. These factory jobs pay far better than farming in the Third World.

In addition to the differences in skills and cost of labor between First and Third World nations, there is also a significant difference in the regulations which has led to the outsourcing of manufacturing jobs to lesser developed areas. More specifically, both labor regulations and occupational and material safety regulations are much less controlled which allows goods to be manufactured at a lower cost in LDC's compared to MDC's. Minimum wage laws (which were mentioned above) and also laws regarding child labor and the maximum number of hours per week an employee is allowed to work are absent or only loosely enforced in LDC's. Finally, both occupational safety and material safety are much less regulated in LDC's. Without having to worry about OSHA safety regulations or whether or not there is lead in the paint used to coat their finished products, companies are able to produce goods at a lower cost.

Essay 3

3. In the late 18th Century, Thomas Malthus proposed a theoretical process whereby the human population of the earth grows in an exponential curve where as the food production grows in a straight line. At some point in time, the population growth will exceed the available food supply and widespread famine will result. History and present conditions show us that Malthus's prediction has not yet come to fruition. The population of the earth has continued to grow exponentially, but so far the food supply has been able to keep pace. This is in part to the development of new farming techniques, and manufacturing processes whereby food can be grown, harvested, and packaged more efficiently and with less waste. With the dawn of the industrial age, the human population curve has remained the same, but the curve of food production has been able to grow exponentially as well. This is on contrast to what Thomas Malthus predicted.

In recent years, Neo-Malthusians have warned that in spite of recent industrial advancements, Thomas Malthus's theory of food production not being able to keep pace with population growth can still happen. One of the reasons food production has increased is that we have developed rainforests into rangeland to produce beef. In addition, much of this land is not being used as effectively as it could be because of the recent increase in demand for meat. Meat-based diets, which are less common in LDC's, are becoming more and more popular as the world industrializes. This puts a much greater strain on the agricultural resources, however. It takes approximately 20 times the resources (land, water, and labor) to produce 1 pound of meat as it does to produce the same weight of grain. At this rate, Neo-Malthusians warn that there is no way the earth can continue to sustain its ever-growing population.

Let's see how it scored:

3.	Summary	Ex. 1	Ex. 2	Def	Warnings	Total
	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>4</u>
	0 or 1	0, 1 or 2	0, 1 or 2	0 or 1	0, 1 or 2	out of 8

Now let's look at a higher-scoring version of Essay 3:

3. In the late 18th Century, Thomas Malthus proposed a theoretical process whereby the human population of the earth grows in an exponential curve where as the food production grows in a straight line. At some point in time, the population growth will exceed the available food supply and widespread famine will result. History and present conditions show us that Malthus's prediction has not yet come to fruition. The population of the earth has continued to grow exponentially, but so far the food supply has been able to keep pace. New crop hybrids, have made a significant impact in the amount of food grown as new varieties have been bred to be more productive and drought resistant. In addition, the development of mechanized planting and harvesting equipment and manufacturing processes whereby food can be grown, harvested, and packaged on a much larger scale. With technical advances such as these, the curve of food production has been able to grow exponentially ahead of population demands, in contrast to what Thomas Malthus predicted.

In recent years, neo-Malthusians have warned that in spite of recent industrial advancements, Thomas Malthus's theory of food production not being able to keep pace with population growth can still happen. There

are physical limits to the land available for agriculture. Much of this land is not being used as effectively as it could be because of increased global demand for meat, particularly beef. Meat-based diets, which are less common in LDC's, are becoming more and more popular as the world industrializes. It takes approximately 20 times the resources (land, water, and labor) to produce 1 pound of meat as it does to produce the same weight of grain. A second example is the destruction of rainforests to create more farmland. Rainforests are the earth's lungs, reducing the carbon load in the atmosphere and therefore reduce global warming. If forests continue to be cut for food production, the global average temperature could rise significantly, leading to a global environmental crisis. For these reasons, many neo-Malthusians warn that there is no way the earth can continue to sustain its ever-growing population.