

This page intentionally left blank.

GO ON TO THE NEXT PAGE.

HUMAN GEOGRAPHY

SECTION I

Time—60 minutes

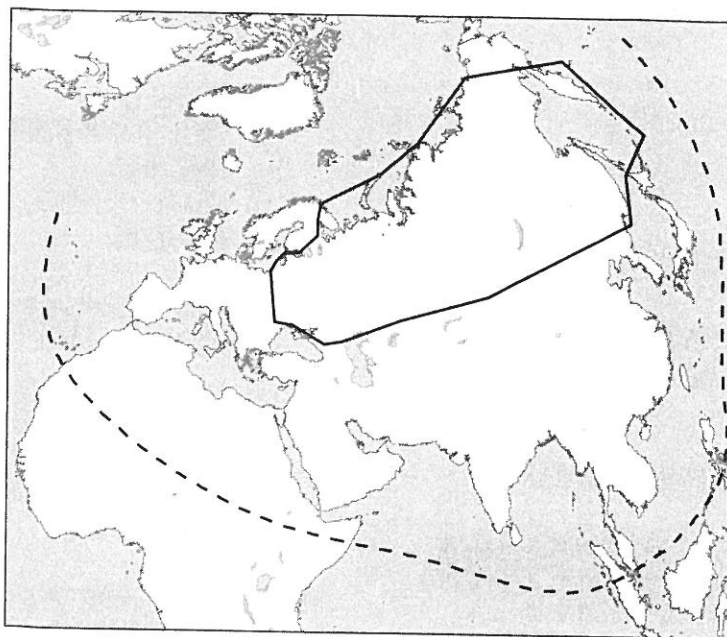
75 Questions

Directions: Each of the following questions or incomplete statements below is followed by five suggested answers or completions. Select the answer that is the best in each case, and then fill in the corresponding oval on the bubble sheet.

1. The effect of Internet connectivity on global communication and business is that it
 - (A) increases the absolute distance between places
 - (B) decreases the absolute distance between places
 - (C) increases the friction of distance between places
 - (D) decreases the relative distance between places
 - (E) decreases the Euclidean distance between places
2. The theory of environmental determinism generalizes a region's culture as being shaped by
 - (A) the combined influences of the physical geography of the region
 - (B) access to waterways for transport
 - (C) the population's choice of a staple food crop
 - (D) the dominant religion of the region
 - (E) people's ability to live sustainably and prevent population pressure
3. All of the following are branches or denominations of Islam EXCEPT
 - (A) Shia
 - (B) Sunni
 - (C) Sufism
 - (D) Quranism
 - (E) Hinduism
4. The staple crop of the Andean culture hearth of the Inca peoples was
 - (A) maize (corn)
 - (B) potatoes
 - (C) yams
 - (D) manioc
 - (E) wheat

GO ON TO THE NEXT PAGE.

Use the following map to answer questions 5-7:



5. The model presented in the map is
- (A) the division between Roman Catholic and Eastern Orthodox religious dominance
 - (B) Northern and Southern economies separated by the Brandt Line
 - (C) world map as prescribed during the Berlin Conference of 1884
 - (D) Mackinder's Heartland-Rimland model
 - (E) the Russian and British Empires in 1904
6. The Pivot Area as depicted on the map is important because it contains
- (A) valuable land resource regions such as the Eurasian Steppe and Siberia
 - (B) the political heart of Communism during the twentieth century
 - (C) the region connected by the Trans-Siberian Railway
 - (D) the extent of the Russian empire before the rise of Communism in 1917
 - (E) the area devoid of British and American cultural and political influence
7. Cohen's Shatterbelt theory predicted that armed conflicts after 1950 would likely occur in areas
- (A) within the Pivot Area
 - (B) along the borders of the Pivot Area and Inner Crescent
 - (C) within the Inner Crescent
 - (D) along the borders of the Inner and Outer Crescents
 - (E) within the Outer Crescent

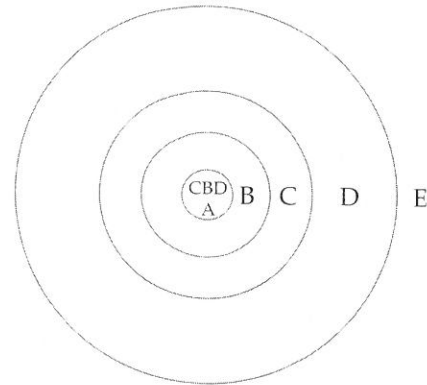
GO ON TO THE NEXT PAGE.

8. Fisheries, mining, and timber are types of economic production that are part of the
- (A) primary sector
 - (B) secondary sector
 - (C) tertiary sector
 - (D) quaternary sector
 - (E) quinary sector
9. The political-economic system found in Communist states is known as
- (A) free-market federal democracy
 - (B) free-market social democracy
 - (C) Marxist-Socialism
 - (D) feudalism
 - (E) free-market parliamentary democracy
10. In addition to employment and increased pay opportunities, poor rural to urban migrants in LDCs can be influenced by pull factors such as
- (A) entertainment and increased access to services in cities
 - (B) armed conflicts and disasters in rural areas
 - (C) decreased political corruption and increased police protection in cities
 - (D) increasing land costs for agriculture in rural regions
 - (E) lack of clean water and sanitation availability in new urban settlements
11. By calculating the size and agricultural productivity of former Native American farming areas, geographer William Denevan has estimated the size of the population of the Americas in 1492 as being in the range of
- (A) 5 million to 6 million
 - (B) 10 million to 12 million
 - (C) 50 million to 60 million
 - (D) 180 million to 200 million
 - (E) 400 million to 420 million
12. New suburban CBDs that have developed into large centers of commercial office space and are often located at major transportation nodes or retail centers are known as
- (A) entrepôts
 - (B) break-in-bulk points
 - (C) edge cities
 - (D) export processing zones
 - (E) greenbelts
13. All of the following are factors that contribute to the greenhouse effect EXCEPT
- (A) volcanic eruptions
 - (B) methane emissions
 - (C) carbon dioxide emissions
 - (D) water vapor emissions
 - (E) desertification
14. Which of the following would indicate sustainable resource utilization?
- (A) Disposal of solid municipal waste in an open landfill at a rural location
 - (B) Commercial fishing only in open oceans beyond the continental shelf
 - (C) Paving roads and highways with recycled automobile tire and glass waste
 - (D) Heating and cooking in Third World homes with wood from local forests
 - (E) Increased cattle farming in dry grasslands where commercial crops will not grow
15. The geographic concept of "nation" can be best described as
- (A) a population and defined area controlled by an organized government
 - (B) a federal system such as the United States or Brazil
 - (C) a population represented by a singular culture
 - (D) a population with a singular culture and single government
 - (E) the equivalent of a state or country

GO ON TO THE NEXT PAGE.

16. Which of the following countries were former Communist states and are now members of the European Union?
- (A) Finland and Kazakhstan
 (B) Austria and Switzerland
 (C) Serbia and Albania
 (D) Russia and Belarus
 (E) Lithuania and Poland
17. The traditional method of farming in woodland areas that has been practiced for centuries but now poses an environmental problem in tropical rain-forest regions is
- (A) raised-field agriculture
 (B) slash and burn agriculture
 (C) multi-cropping
 (D) aquaculture
 (E) factory farming
18. Which one of the following lists are ALL renewable energy resources?
- (A) natural gas, coal, hydropower
 (B) solar, geothermal, wind power
 (C) petroleum, hydrogen, coal
 (D) nuclear, petroleum, ethanol
 (E) coal, lignite, peat
19. The border characteristics of political regions are
- (A) considered fuzzy
 (B) overlapping other regions
 (C) measurable transition zones
 (D) finite delineations
 (E) vernacular in popular definition

Use the diagram below to answer questions 20-23:



20. This urban model best resembles a
- (A) concentric zone model
 (B) von Thünen's model of the Isolated State
 (C) sector model
 (D) multiple nuclei model
 (E) galactic city model
21. In this urban model, land prices would be highest in the area labeled
- (A) A
 (B) B
 (C) C
 (D) D
 (E) E
22. In the United States following World War II, the ring that would expand most significantly in size would be the area labeled
- (A) A
 (B) B
 (C) C
 (D) D
 (E) E
23. Using the diagram, a model of urban realms that more realistically represents commercial land values can be created by inserting
- (A) rivers and trails
 (B) roads and railways
 (C) airports and schools
 (D) power plants and ports
 (E) banks and hospital

GO ON TO THE NEXT PAGE.

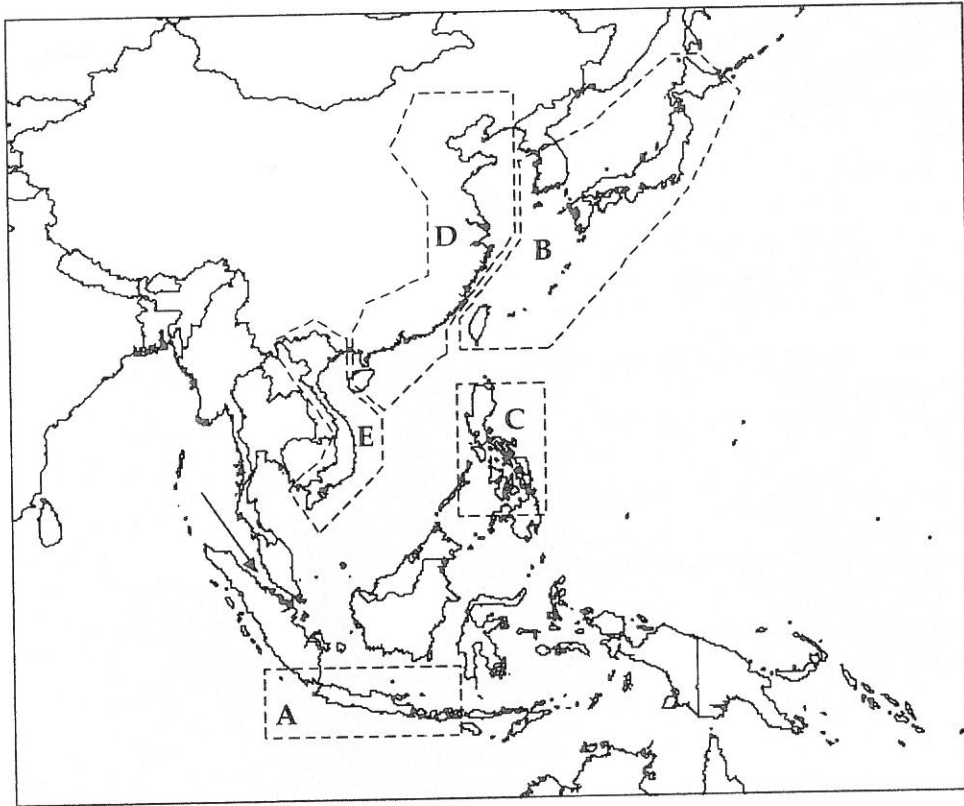
24. The use of the English language by all commercial airline pilots worldwide for the purpose of air-traffic control safety would be an example of
- (A) transnational migration
 - (B) relocation diffusion
 - (C) a lingua franca
 - (D) multiplier effects
 - (E) a footloose industry
25. Which of the following would be an example of a government policy protecting against cultural globalization?
- (A) U.S. tariffs on imported automobiles from Japan and Germany
 - (B) French and Canadian government funding for production of French-language movies
 - (C) French and Japanese trade limitations on beef produced in Great Britain
 - (D) South African government-sponsored "peace and reconciliation" committees
 - (E) Chinese establishment of Special Economic Zones in coastal port areas
26. Which of the following lists are ALL primate cities?
- (A) Tokyo, Beijing, Djakarta
 - (B) New York, Chicago, Los Angeles
 - (C) Mexico City, Buenos Aires, Lima
 - (D) Rio de Janeiro, Miami, New Orleans
 - (E) Mumbai, Shanghai, Karachi
27. Which of the following examples would best represent the concept of map scale?
- (A) private land, commercial land, government land
 - (B) 1:24,000, 1:1,000,000, 1:6,000,000
 - (C) census tract, city limits, county boundaries
 - (D) Washington, New York, Springfield
 - (E) line coloration from blue to green and then to red
28. The concept of "space" in human geography can be defined as
- (A) areas of the earth's surface bounded by objects, real and imagined
 - (B) a point on the earth's surface with a meaningful characteristic
 - (C) areas outside of planetary atmospheres
 - (D) the amount of human population that can be supported by the resources in the area
 - (E) an area with a common homogeneous characteristic
29. Jerusalem is considered a holy place by all of the following religions EXCEPT
- (A) Catholicism
 - (B) Protestantism
 - (C) Islam
 - (D) animism
 - (E) Judaism

GO ON TO THE NEXT PAGE.

30. A small family-run farm in an LDC that produces a variety of crops including corn, vegetables, eggs, and milk would most likely be an example of
- (A) crop rotation
 - (B) subsistence farming
 - (C) export-based agriculture
 - (D) monoculture
 - (E) plantation farming
31. The North American Free Trade Agreement (NAFTA) is considered a free-trade zone between Canada, the United States, and Mexico because of
- (A) the elimination of border control stations and customs inspections
 - (B) the adoption of the dollar as the common currency
 - (C) the free movement of labor across international borders without visas
 - (D) the elimination of tariffs on goods and services traded across borders
 - (E) the free shipping of goods between countries provided by postal services
32. The Russian Baltic Sea port of Kaliningrad (Koenigsberg) is separated on land from Russia by Lithuania and Belarus. In this regard it is a political example of an
- (A) entrepôt
 - (B) enclave
 - (C) ethnic neighborhood
 - (D) enterprise zone
 - (E) exclave

GO ON TO THE NEXT PAGE.

Use the map below to answer questions 33-36:



33. Which of the regions in the map would contain the older "Asian Tigers" that experienced large scale industrial redevelopment in the 1950s and '60s?
- (A) A
(B) B
(C) C
(D) D
(E) E
34. Which of the regions in the map would contain areas known as special economic zones (SEZs)?
- (A) A
(B) B
(C) C
(D) D
(E) E
35. The economically important sea lane designated by the arrow on the map is the
- (A) Straits of Hormuz
(B) Panama Canal
(C) Suez Canal
(D) Straits of Magellan
(E) Straits of Malacca
36. The areas that have large Catholic religious populations are
- (A) A and B
(B) C and D
(C) C and E
(D) B and C
(E) A and D

GO ON TO THE NEXT PAGE.

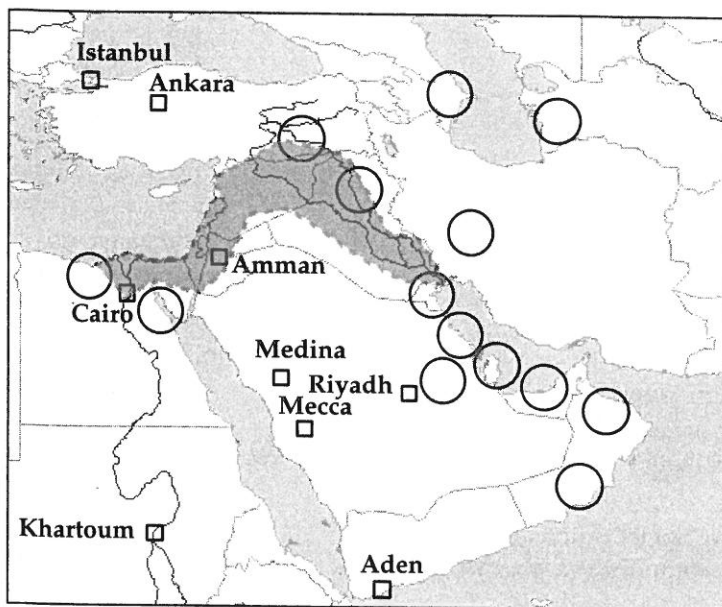
37. Spain, Morocco, and Pakistan share commonalities in cultural landscape features such as architecture, vocabulary, and place-names due to the influence of _____ culture.
- (A) French
 - (B) British
 - (C) Spanish
 - (D) Arabic
 - (E) Roman
38. The musical styles of reggae and ska, along with the religion of Rastafarianism, have their origins in
- (A) the United States
 - (B) Great Britain
 - (C) Ethiopia
 - (D) Trinidad
 - (E) Jamaica
39. The countries of Belgium, Luxembourg, and the Netherlands are considered all of the following EXCEPT
- (A) founding members of the European Economic Community (later the EU)
 - (B) states with high Total Fertility Rates (TFR)
 - (C) the Benelux countries
 - (D) states with high per capita gross national products (GNP)
 - (E) founding members of the North Atlantic Treaty Organization (NATO)
40. The time frame of decolonization in Africa during which most states became independent of European control was
- (A) 1810s–1830s
 - (B) 1890s
 - (C) 1914–1918
 - (D) 1945–1948
 - (E) 1960s–1990s
41. The amount of energy resources estimated to be contained in fossil fuel deposits, but have not been explored and analyzed by geologists, is known as a(n)
- (A) proven reserve
 - (B) potential reserve
 - (C) energy deficit
 - (D) energy surplus
 - (E) production volume
42. The type of manufacturing which involves the coordinated assembly of products as supplies and parts are received, and thus reduces production costs and decreases inventory space is known as
- (A) footloose industries
 - (B) tertiary production
 - (C) just-in-time production
 - (D) craft manufacturing
 - (E) cottage industries
43. A place, such as a port or rail yard, where goods are transferred from one mode of transportation, subdivided and then sent on another transport system is known as a(n)
- (A) resource node
 - (B) export processing zone
 - (C) break-in bulk point
 - (D) PLVI
 - (E) transport node

GO ON TO THE NEXT PAGE.

44. The primary concern of Thomas Malthus's theory of population was that
- (A) human populations would eventually shrink to sizes where industrial economies could not be sustained
 - (B) human populations would grow at rates that would exceed their ability to produce food and resources
 - (C) human populations would eventually stabilize in size, and that demand for new food and resource supplies would subside
 - (D) human populations would become fully urbanized, leaving no one to perform agriculture in rural areas
 - (E) human populations would reach densities where eventually epidemic disease would become impossible to control
45. In a country where the rate of natural increase (RNI) is a negative number, an expected secondary effect of this population situation would be
- (A) a decrease in the per capita gross national product
 - (B) fewer women entering management, scientific and political positions
 - (C) a repeal of open-border policies
 - (D) decreased government protection of natural environments
 - (E) an increase in foreign guest workers immigrating to fill jobs
46. The replacement rate is a Total Fertility Rate (TFR) of
- (A) 0.1
 - (B) 1.1
 - (C) 2.1
 - (D) 3.1
 - (E) 4.1
47. The study of the movement of disease across space is known as
- (A) epidemiology
 - (B) technical diffusion
 - (C) contagious diffusion
 - (D) redlining
 - (E) geomorphology

GO ON TO THE NEXT PAGE.

Use the map below to answer questions 48-50:



48. The shaded region of ancient civilizations which spanned from the Nile River valley through and to the Tigris and Euphrates Rivers is known as the
- (A) Arabian Peninsula
 - (B) Fertile Crescent
 - (C) Anatolian Migration
 - (D) Maghreb
 - (E) Kingdom of Heaven
49. The circled areas on the map are all areas which
- (A) are under the control of al-Qaeda from 2001 to present
 - (B) were under the control of the U.S.-led military coalition as of 2003
 - (C) are home to the Kurdish peoples
 - (D) are production zones of proven oil reserves
 - (E) have large-scale irrigated agriculture
50. The cities labeled on the map share all of the following characteristics EXCEPT
- (A) all are national capitals
 - (B) all are primate cities
 - (C) all have populations over 1 million
 - (D) none are sea ports
 - (E) all have majority Sunni Muslim populations

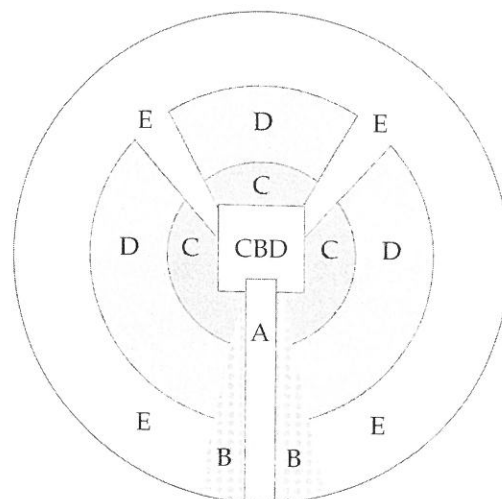
GO ON TO THE NEXT PAGE.

51. The political economy of Canada would be best described as a
- (A) British colony
 - (B) dependent territory
 - (C) Marxist-socialist state
 - (D) supranational organization
 - (E) free-market parliamentary democracy
52. Mediterranean agricultural products are grown in the United States primarily in
- (A) Hawaii
 - (B) the Upper Midwest
 - (C) Central and Southern California
 - (D) the New York–New Jersey metropolitan area
 - (E) the Atlantic Coastal Plain
53. In the states of the former Soviet Union and Eastern Europe, the shift from communism to free-markets is referred to as
- (A) socialization
 - (B) economic restructuring
 - (C) nationalization
 - (D) containment theory
 - (E) the Cold War
54. The process of soil salinization is most likely to occur in areas where there is
- (A) excessive irrigation in dry-land agricultural zones
 - (B) deforestation in temperate climate zones
 - (C) irrigation near ocean or sea coasts
 - (D) plowing of loess soils
 - (E) long-term use of fertilizers and pesticides
55. Secondary industries such as fish canneries and lumber mills where manufacturing is dependent on a single natural resource tend to be located
- (A) dispersed near consumer retail locations in a decentralized pattern
 - (B) centralized close to natural resource locations
 - (C) centrally within consumer market regions
 - (D) dispersed near wholesale distribution centers
 - (E) centralized near international airport hubs
56. The process of gerrymandering is best described by
- (A) the establishment of new city, county or state governments more favorable to business interests and wealthy citizens
 - (B) the creation of new voting districts that have irregular boundaries designed to favor a particular candidate or political party
 - (C) the delineation of areas where insurance companies do not wish to sell policies to homeowners due to race, ethnicity or income differences
 - (D) the expansion of city limit boundaries to include new suburbs and areas of city utility infrastructure
 - (E) the random overlapping of public service districts where the boundaries of school systems, public utility services and political boundaries do not match
57. The development indicator which uses a combination of factors including life expectancy, education rates and income to measure a country's level of development is known as the
- (A) Human Development Index (HDI)
 - (B) Gross Domestic Product (GDP)
 - (C) Gross National Product (GNP)
 - (D) Gross National Income Purchasing Power Parity (GNI PPP)
 - (E) Consumer Price Index (CPI)
58. The process by which a national economy shifts away from manufacturing to production dominated by services and high technology development is known as
- (A) a newly industrialized economy
 - (B) Fordism
 - (C) the Industrial Revolution
 - (D) deindustrialization
 - (E) market capitalism

GO ON TO THE NEXT PAGE.

59. In the post–World War II United States, the locational shift of commercial offices and services from downtown CBDs to suburban areas can be attributed to
- (A) the shift in government locations from downtowns to new suburban locations
 - (B) decreased environmental regulations in suburban areas that did not limit water pollution and air emissions
 - (C) the demand for more industrial land for factories in inner city areas pushing out other commercial activities
 - (D) the availability of low-cost immigrant workers in suburban areas which decreased corporate labor costs
 - (E) the shift in commercial service workers and consumer residences from inner cities to the suburbs
60. The area off the coast of a country that extends 200 nautical miles across the water, where that country controls all natural resource extraction including fisheries, energy and minerals, is established under the United Nations Conference of the Law of the Seas (UNCLOS) as
- (A) international waters
 - (B) the special economic zone
 - (C) the exclusive economic zone
 - (D) territorial seas
 - (E) sovereign territory

Use the following diagram of the Latin American city model to answer questions 61-64:



61. The elite residential sector of the city is found in the areas labeled
- (A) A
 - (B) B
 - (C) C
 - (D) D
 - (E) E
62. The CBD labeled on the map historically is centered around a colonial-era
- (A) plaza
 - (B) port or embarcadero
 - (C) temple complex
 - (D) castle or fort
 - (E) coliseum
63. Squatter settlements near the center of the city, situated in areas such as river banks, steep hillsides, or abandoned industrial lands, are known as
- (A) Zona Rosa
 - (B) cordon sanitaire
 - (C) zone of maturity
 - (D) peripheral squatter settlements
 - (E) zones of disamenity
64. The zone of *in situ* accretion is the area labeled
- (A) A
 - (B) B
 - (C) C
 - (D) D
 - (E) E

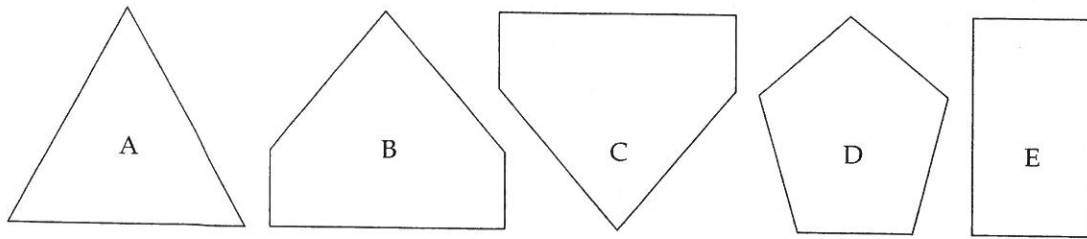
GO ON TO THE NEXT PAGE.

Section I

65. To increase agricultural productivity and increase the pest-resistance of many crops, in recent decades agroindustry firms have developed
- (A) heirloom varieties
 - (B) organic farming
 - (C) genetically engineered foods
 - (D) value-added agriculture
 - (E) chemical fertilizers
66. Prior to the rise of steam power and the electrification of industry, manufacturing centers of the early Industrial Revolution were mainly located
- (A) along roads with large amounts of cart and wagon traffic
 - (B) in forest regions where wood was abundant
 - (C) on waterfalls of streams and rivers
 - (D) in national capitals with government funding
 - (E) at university research and development centers
67. Which of the following is a list of newly industrialized countries (NICs)?
- (A) Brazil, Mexico, India
 - (B) Kenya, Zambia, Tanzania
 - (C) Russia, Ukraine, Poland
 - (D) United States, Great Britain, France
 - (E) Japan, South Korea, Taiwan
68. NATO and the Warsaw Pact can be best described as
- (A) regional organizations based on economic cooperation
 - (B) early attempts at free-trade zones in Europe
 - (C) partners in combating irredentism in the former Yugoslavia
 - (D) military allies during World War II
 - (E) supranational organizations based on military cooperation
69. The point in the urban landscape with the highest real estate prices is known as the
- (A) transport node
 - (B) resource node
 - (C) central place
 - (D) peak land value intersection
 - (E) breaking point
70. Population density in the United States since the 1940s has
- (A) shifted toward the northern and western states
 - (B) decreased overall
 - (C) remained high in the agricultural Midwest
 - (D) rapidly increased in downtown CBDs
 - (E) shifted toward the southern and western states

GO ON TO THE NEXT PAGE.

Use the following diagrams to answer questions 71-73:



Diagrams of Population Pyramid Shapes

71. The diagrams with the highest dependency ratios are
- (A) A and E
 - (B) A and C
 - (C) B and C
 - (D) C and D
 - (E) D and E
72. The diagram that most resembles the population structure of the United States is
- (A) A
 - (B) B
 - (C) C
 - (D) D
 - (E) E
73. The diagram that most resembles the population structure of Germany is
- (A) A
 - (B) B
 - (C) C
 - (D) D
 - (E) E
74. The Creole culture found in and around the Caribbean and Gulf of Mexico is a mix of the following influences:
- (A) Anglo-American and Mexican
 - (B) Asian, African, and European
 - (C) Native American, African and European
 - (D) Native American and Asian
 - (E) European, Asian, and Native American
75. Low-profitability manufacturing, in goods such as clothing or shoes, tends to be located in LDCs that have all of the following EXCEPT
- (A) low real estate prices
 - (B) high-level government environmental rules
 - (C) low labor costs
 - (D) high numbers of available labor
 - (E) high amounts of foreign direct investment

END OF SECTION I

HUMAN GEOGRAPHY

SECTION II

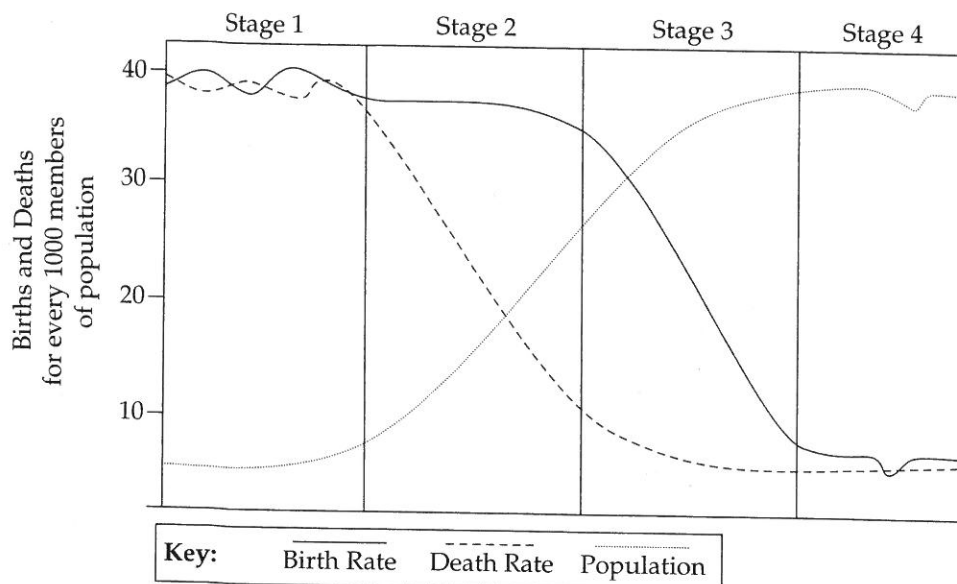
Time—75 minutes

Percent of total grade—50

Directions: You have up to 75 minutes to answer all three of the following questions. It is recommended that you spend approximately one-third of your time (25 minutes) on each question. It is suggested that you take up to 5 minutes of this time to plan and outline each answer. While a formal essay is not required, it is not enough to answer a question by merely listing facts. Illustrate your answers with substantive geographical examples where appropriate. Be sure that you number each of your answers, including the individual parts, in the answer booklet as the questions are numbered below.

1. Explain **TWO** push factors and **TWO** pull factors that affect rural-to-urban migrants in newly industrialized countries (NICs). For new rural-to-urban migrants, describe the conditions of housing found in most industrial cities within NICs.

GO ON TO THE NEXT PAGE.



2. Use the diagram to answer the following questions:
- Use generalized examples to explain the changes in birth rates and death rates across the Demographic Transition. Be sure to describe how these changes affect total population over time.
 - Using social and economic characteristics, describe where you would place the following two countries in the model:
 - Sweden
 - India
3. Describe the advantages and disadvantages posed by nuclear power in comparison to fossil fuel resources. Address the following issues in your comparison:
- air pollution
 - environmental safety
 - waste management

STOP

END OF EXAM

13

PRACTICE TEST 2: ANSWERS AND EXPLANATIONS

MULTIPLE CHOICE QUESTIONS

- 1. D** The effect of new technologies like the Internet (or historically, trains) is that they reduce the relative distance in time traveled between places as opposed to the absolute distance, which remains a constant length. The trick is to think that your “relatives” come to visit you and thus reduce the time and distance between you and them, whereas you “absolutely” can’t change the distance in road miles from their house to your home. Use POE to eliminate (A) and (B). You can eliminate (C) because the friction of distance is concerned with things that slow down the transit of something in between two fixed points—think of a rough road as friction that slows down a car. Choice (E) is incorrect because Euclidean distance is the linear fixed distance between two points; “as the crow flies” is a term your teacher may use, or he or she may show you this concept by holding a ruler across a map, showing the straight-line distance between places.
- 2. A** Simply put, the old scientific ideology or paradigm of environmental determinism was that “nature shapes culture.” The idea that physical geography—the combination of landforms, plants, soils, animals, oceans, climate, and weather—was different everywhere and resulted in different human adaptations to nature. Thus, cultures were different from place to place as a result. Choice (B) is referring to “site” characteristics. Choice (C) is pointed toward the “culture hearth” concept of a specific staple food to feed a large empire. Choice (D) is wrong because religion is one of many elements that compose the concept of culture. Don’t be fooled by (E). Just because the word “sustainably” is here doesn’t mean that it’s automatically linked to the word *environmental*.
- 3. E** The part of the course on culture has a large section of global religions. The key to this question is not the knowledge that (A), (B), (C), and (D) are all forms of Islam: Instead, the key is knowing that Hinduism is very old (over 5,000 years) and that Islam is an Abrahamic religion.
- 4. B** This example question asks you to match the staple food crop to its historical example—in this case, the Inca who fed their empire many varieties of potato. Maize or corn was the staple crop of the Aztec in what is today Mexico. Yams were the staple crop of several West African empire states including the Songhai. Manioc (also called yuca—not to be confused with yucca) is a root vegetable and is thought to have been the staple of pre-Columbian civilization in the Amazon Basin. Wheat has its origins in the culture hearth of Mesopotamia in present-day Iraq.
- 5. D** Halford Mackinder’s Heartland-Rimland model was the first major theoretical model of geopolitics in the twentieth century, and it has been used to predict areas of conflict since the world wars. If the labels such as “Pivot Area” don’t clue you in to the definition of Heartland-Rimland, use POE to cross off the other choices. Eliminate (A) as Catholicism is not dominant in Asia. Get rid of (B) since the Brandt line is an economic division of the world into Northern (developed) and Southern (less developed) economies; the United States would be above the line. Choice (C) is incorrect because the Berlin conference set the political boundaries of Sub-Saharan Africa. You can cross off (E); the British Empire would have some gaps in it, such as Thailand and Vietnam (French Indochina) as well as much of central and southern Europe.

6. A This question asks you to explain the components of the Heartland-Rimland model. All of the answers are spatially true, but only (A) is true in relation to the model. Land was the commodity that Mackinder was mainly concerned with in his theories. And some lands, such as the Eurasian Steppes (the Russian-Ukrainian) breadbasket, and the timber and mineral rich expanse of Siberia, were more valuable than others.
7. C Here is another place where you need to know how the models have changed over time. After Mackinder's death in 1947, Saul Cohen picked up where he left off and applied the same land and conflict principles to the post-World War II era. With "Shatterbelts" identified as the areas of tension between the USSR and the USA, Cohen predicted many of the Cold War conflicts such as Vietnam, Malaya, Greece, India and Pakistan, and the Middle East that were just beginning to brew. These latter twentieth century conflict zones all fall in the Inner Crescent.
8. A Think of the primary sector as being where raw natural resources are produced and thus are the primary or first components in a supply chain that are processed by secondary industries (factories). Choices (C), (D), and (E) are all parts of the service economy.
9. C Marxist-socialist political economies are found only in states that are controlled by ruling communist parties. The term communism arises from the communal farms and collective ownership of industry which Karl Marx and Friedrich Engels envision in the *Communist Manifesto*. POE should eliminate the "democracy" answers, (A), (B), and (E). Feudalism predates all of the other answers and is represented by land, money, and resources being under the control of a small but powerful aristocracy and the majority of the population being land-less peasants.
10. A The question asks for a valid pull factor, which are different from push factors when discussing migration. The pull factors are things specific to cities that draw migrants toward urban settlements. One way to organize this in your mind is to remember that the opposite of a positive rural factor cannot be a pull factor. For example, that lack of good pay for farmers is a push factor, whereas available, well-paying jobs in urban factories is a pull factor.
11. C This question requires you to know that the pre-Columbian (that is, before Columbus came to the Americas in 1492) population of North and South America was significant and larger than you might think. William Denevan collected archaeological findings to estimate the total area covered by agriculture in 1492. Multiply this number by the amount of people that could be fed per acre by this agriculture (about 40 million). The product was added to an estimated size of hunting and gathering and fishing communities thought to be in existence at that time. The total came out to be around 52 million people.
12. C Edge cities are suburban central business districts that have grown into large centers of commercial office space. In the book *Edge Cities*, Joel Garreau stated that to qualify as an edge city, the density of a suburban central business district has to have in excess of 5,000,000 square feet of office space; occur at a transportation node; and have a high daytime population and a low nighttime population. Most edge cities tend not to have their own form of municipal government. Entrepôts are ports that import products and then sell them as exports at higher prices. Break-in-bulk points are locations where goods are transferred from one line of transportation to another. Export processing zones are areas in which factories typically make goods for foreign markets. Greenbelts are areas of forest or suburban parkland that surround cities.

13. A Volcanic eruptions can eject extremely large amounts of ash into the atmosphere. The ash suspended in the air then prevents some solar heat energy from entering the earth's atmosphere, and thus can cool the air, creating a global shade effect. The noticeable cooling occurs after large volcanic eruptions. Methane emissions are a lesser-known form of greenhouse gas, similar to carbon dioxide emissions, which are the more commonly known source of global warming. Water vapor emissions from power plants and motor vehicles can also create greenhouse effects in the atmosphere and thus lead to global warming. Desertification is a result of human action, such as deforestation or vegetation removal, which turns a natural environment into a desert-like state. The result is a condition where the earth's reflection surface or *albedo* is increased. Thus, more solar energy is reflected from the surface to the atmosphere and increases the potential greenhouse effect.
14. C Using recycled materials such as tires and melted glass to pave roads instead of natural resources such as the tar or asphalt produced from petroleum refining is considered a sustainable means of resource utilization. Old tires are processed into a tar-like substance that can replace asphalt, which comes from petroleum refining. Landfills are often not sustainable because they require a great deal of open land, and rarely are the materials in a landfill ever recycled. Open ocean fishing on the continental shelf may seem like an "elastic" resource, but it has proven to be an unsustainable process using current fishing methods. For example, mile-long microfiber drift nets can easily ensnare and endanger other marine life. In the Third World, wood is a common source of household cooking fuel and heating energy. However, fuelwood supplies are considered threatened in most Third World forests. This is because these forests are not used in a sustainable manner and many cut forests are not being replanted, but being turned into additional agricultural production zones. Using natural dry grasslands for animal grazing is a common agricultural practice, especially where grain and vegetable crops will not grow. However, in most cases, grasslands are being too intensively utilized and are under threat from desertification.
15. C Although the term *nation* is used in common speech synonymously with country and sometimes the word *state*, in the field of geography *nation* specifically refers to a culture group, or a population that is represented by a single culture. Choice (A) is a definition that can be used for the term *state*. Choice (B) refers to confederations like the United States or Brazil or even Mexico that are unitary federal states made up of a multitude of local or regional states. Choice (D) is the technical definition for the term *nation-state*. Think of the concept of the pure nation-state, such as Iceland or Japan, where there is one single culture, and one representative government. (E) feeds back on the common language synonym with nation and is attempting to trick you with the non-technical context.
16. E In 2007, the European Union fully admitted a number of former Eastern Bloc states, including Estonia, Latvia, Lithuania, and Poland and the Czech Republic, Slovakia, and Slovenia. Finland is already a member of the European Union and has been so since the 1980s. Kazakhstan is not a member. Switzerland is not a member of the European Union, even though it's in the center of Europe geographically. The Swiss pride themselves on their political independence and neutrality. Thus, Switzerland and Norway, along with Iceland, are the only Western European countries that are not EU members. Serbia (part of the former Yugoslavian republic) and Albania are former parts of the communist Eastern Bloc. However, these two countries

face significant political and financial difficulty, and are far from being considered for EU membership. Russia and Belarus, former parts of the Soviet Union, are the least likely former communist states to be considered for EU membership. Both countries have strong dictatorial like presidencies. Despite their transition to free-market style economies, EU membership would require a distinct shift towards more democratic forms of governance in these countries.

17. **B** Slash and burn agriculture, also known as “swidden,” is a type of farming that has been used since the pre-Columbian period in rainforest regions. However, in the twentieth century, population pressures, especially in countries such as Brazil and Indonesia where many poor people have been encouraged by their governments to move into wooded regions and settle, have created problems, especially the destruction of rainforests. Attempts to permanently settle rainforest farmland—given the low quality of rainforest soils—presents long-term sustainability problems. Raised-field agriculture is the type of farming which William Denevan recognized as the primary form of agriculture in the Americas before 1492. Multi-cropping is agriculture that integrates more than one type of plant and farming practice. Aquaculture is the raising of marine species such as seaweed or kelp, or animal species such as oysters for food or other purposes. Factory farming, such as the use of hydroponics, is most common in First World countries. Remember that tropical rainforests exist almost exclusively in the Third World.
18. **B** Solar energy, geothermal energy (the use of the earth’s heat energy to create steam or other forms of heat), and wind power are all sources of energy that are naturally related without significant human inputs, other than the equipment used to collect it. Natural gas and coal are both fossil fuels and are not renewable. Petroleum, otherwise known as oil, is also a fossil fuel resource.
19. **D** Political boundaries must be finite, because it’s difficult for states to share land or territory. “Fuzzy” borders are what are found at the edges of culture regions, which easily overlap one another. “Overlapping” is not specific enough to answer the question. Measurable transition zones are characteristic of the borders between bioregions. These bioregion borders are often referred to as *ecotones*. Choice (E) tries to trick you by confusing political with culture regions. Remember that a vernacular region is a type of culture region that is named and identified by its inhabitants.
20. **A** The bull’s-eye shape model can be one of the two major models in a human geography course. The other bull’s-eye shape model is the von Thünen model, which deals specifically with agriculture and the types of land use in relation to cost of labor and distance from a central town. Choices (C), (D), and (E) are all models that will have irregular shaped parts, but you will not see the circular rings, as you do in the concentric zone model.
21. **A** Burgess was one of the primary designers of this model, and his name is often associated with it (don’t forget the names of people who developed the models; these names have been asked on the AP Human Geography Exam previously). Burgess saw the city not for its neighborhoods, but as an economic surface. Land costs across the surface are highest the center, the model shows the highest value in the central business district (CBD), which exponentially decreases as one moves out towards the suburbs.

22. **D** The area of single-family homes in the suburbs, or the *zone of low-density residential space* would expand most significantly in the second half of the twentieth century. Recall the relevant American history; veterans returning from World War II received guaranteed home loans from the Department of Veterans Affairs. These and other government home loans made ownership of single-family homes possible for hundreds of thousands of American families who had not previously held property. In the 50s, the growth of suburbs, especially Levittown-style developments, greatly expanded the suburban landscape. Thus, the ring labeled (D) would grow significantly and expand outward.
23. **B** Access to transportation will increase the value of commercial land space more than anything else. There are several different types of urban realms models that you can find in textbooks. You may see some that look like a concentric zone model has been turned into a large octopus. The arms of the octopus stretch out along transportation lines and show you the effect of transportation more realistically on an expanse of commercial land. Rivers could also be incorporated into this urban realms expansion of commercial land space. However, trails would not. Airports play a significant role in transportation, but schools themselves would not increase commercial land values in the surrounding area. Ports likewise have a significant transportation effect, yet power plants do not. Banks and hospitals are themselves commercial land space. Although they can create *multiplier effects*, they do not appear in any of the major urban models. This is because they are not considered significant characteristics, despite being important services.
24. **C** A *lingua franca* is defined as a common language used as a bridge between people of different linguistic groups. All airline pilots speaking English for air traffic control safety is such an example. Transnational migration is basically the movement of people across international borders. Relocation diffusion deals with the movements of ideas or technology across a significant physical barrier. Multiplier effects are what are seen around *growth poles*, or locations that create significant economic development in the surrounding area. Footloose industries are corporate firms that are not tied by their location to either consumers or natural resources. Thus, footloose-type locations can appear just about anywhere that corporate decision-makers choose.
25. **B** The spread of American culture in the form of movies and television, for example, is seen as potentially harmful to other linguistic cultures around the world. Many foreign governments see linguistic and cultural diffusion as a threat, and some have created policies to protect their linguistic heritage and cultural institutions. Tariffs are an active economic protection in the United States. They do not apply to culture. Trade limitations on beef, say, in response to mad cow disease, are agricultural and public health provisions. Peace and reconciliation commissions, such as those seen in South Africa or Rwanda, have more to do with the healing social rifts within countries. Special economic zones (SEZs) in China are another economic structure. Again, these do not protect the national culture from foreign influence.
26. **C** A primate city by definition is a city that is the least four times larger than the next largest city in the country (some sources use different multipliers for size. Mexico City is vastly larger than Guadalajara. Buenos Aires, again, is much larger than Mendoza. Lima is also vastly larger than the next largest city in Peru, Cusco.) Although Jakarta could be labeled a primate city, urban primacy is not the case in Japan or China, which have multiple large cities. There

- is no primate city in the United States. Likewise, Brazil has several very large cities; even São Paulo does not qualify as a primate city. There is also no urban primacy in India or Pakistan.
27. **B** Map scale is expressed as a ratio of the relationship between distance on a map and distance in the real world. 1 : 24,000 means that 1 inch on the map would equal 24,000 inches in the real world. Choice (A) refers to different types of land use and has no relationship to scale. Choice (C) represents different scales within population analysis. Choice (D) shows different orders of magnitude used in cartography to represent the population and importance (such as national capitals) of cities. Similarly, what is described in (E) would be a cartographic tool to differentiate values on a choropleth map.
 28. **A** Like the term *place*, “space” is an important theoretical term used in human geography. It can refer to the planar or two-dimensional surface of the earth, or refer to different types of space, both real and imagined, such as *commercial space* or *spaces of fear*. Choice (B) is the definition for the term “place.” Choice (C) attempts to make you think about physics or common uses of the term space in everyday language. Choice (D) is the definition, roughly, for the term *carrying capacity*. Choice (E) is the basic definition for the term *region*.
 29. **D** Animism is a belief system based upon *natural spirituality*, where items in nature such as trees, animals or mountains, can have spiritual meaning or being. Choices (A) and (B) are both denominations in Christianity. Islam considers Jerusalem its third-most holy place, after Mecca and Medina. Judaism, like Christianity, is spiritually centered in Jerusalem.
 30. **B** Small farms in LDCs or lesser developed countries tend to be operated by families who are farming with the primary purpose of feeding themselves or, in part, the local village. These families subsist on the animals and crops which they tend to personally and rely little on the outside world. This is the opposite of “cash-cropping”, export-based agriculture or plantation farming. Crop rotation deals with the changing annual selection of plants on farm plots to take advantage of different characteristics, such as alternating planting soybeans and corn. Soybeans will replenish the nitrogen that corn leaches from the soil. Monoculture refers to the farming of a single crop.
 31. **D** The concept of free trade is centered on the removal of trade restrictions, primarily tariffs that are basically taxes on goods and services that cross international borders. NAFTA is intended to strengthen the Canadian, U.S., and Mexican manufacturing economies by eliminating these tariffs and reducing the cost of production for manufacturers in this three-country region. Choice (A) is not true, as there are still border control stations between the three countries, despite the fact that removing these controls would make trade more efficient. These are a result of concerns about illegal immigration and contraband freely moving across the borders. Likewise, free movement of labor would be problematic in the current context. A common currency for NAFTA has been discussed but is not considered a serious possibility due to the poor state of the Mexican economy. Free shipping service might also reduce costs, but someone (taxpayers) would have to pay for the shipping.
 32. **E** Kaliningrad is a part of Russia, but is separated by land from the main body of Russia. This is the definition of an “exclave.” Technically, Alaska is an exclave of the United States by the same definition. Entrepôts are ports where goods are shipped in and exported to foreign locations for a profit. An enclave would be an area inside of a country that had a different culture group within it. Ethnic neighborhoods are technically types of enclaves. Enterprise zones are special tax districts used for economic development to attract new manufacturing firms.

33. **B** Japan, Korea and Taiwan (what one textbook refers to the *Jakota triangle*) is the area in Asia that was first to develop or redevelop manufacturing following World War II.
34. **D** Special economic zones are a major component of the free market economic reforms in the Peoples Republic of China (mainland China).
35. **E** The Straits of Malacca are an extremely important sea lane near the major port of Singapore. Oil from the Middle East headed to East Asia passes through the Straits; and manufactured goods from East Asia travel to the sea lane headed for Europe.
36. **C** This is a historical geography question about European colonialism. Catholic populations would be expected in countries that had a colonial history under the rule of southern European countries. Vietnam was once part of French Indochina, and prior to the Spanish-American war, the Philippines were a colony of Spain.
37. **D** Spain, Morocco, and Pakistan together all share historical influences of Islam, Arabic language and culture. Despite being on the European mainland, Spain was invaded in the tenth century C.E. by Muslim North African Moors. The Iberian Peninsula was under the control of Muslims until the late 1400s, when they were expelled. Their culture left an impression on Moorish architecture and Arabic language on the Spanish and Portuguese landscapes. Spain shares the Arabic heritage with Morocco across the Straits of Gibraltar, and Pakistan, an Islamic country in South Asia.
38. **E** New forms of culture in the twentieth century emerged as a result of the Pan-Africanism movements, which culturally connected displaced Africans around the world with their cultural forebears. As a result, the creation of Rastafarianism, a modified form of African Christianity or the Coptic Church, emerged in the Caribbean island of Jamaica in the 1960s. Rastafarianism achieved international notoriety through the musical missionary work of artists such as Bob Marley. The United States and Great Britain are both recipients of migrants and musical culture from Jamaica. Ethiopia is seen as the spiritual origin of the Rastafarian faith as the birthplace of their messiah, Haile Selassie (birth name: Ras Tafari Makonnen). Trinidad is used as a distractor to try to get you to second guess the selection of Jamaica.
39. **B** This question asks you to characterize Belgium, Luxembourg, and the Netherlands as being First World nations. One of the characteristics of First World service-based economies is the relatively low birth rates and fertility rates of the population. Remember: A low rate of natural increase, or negative growth rate, is a major policy problem for some European governments. Benelux is an acronym for Belgium, Luxembourg, and the Netherlands together—they are also known as the *Low Countries*. All three are highly valuable economies with small populations, and less have high per capita GNP. All three were founding members of the European Economic Community and NATO.
40. **E** It is important to remember that Africa was the last part of the world to achieve independence from European colonial powers. Thus, (E) is the correct answer as it represents this recent period of decolonization. The 1810s to 1830s would be the historical timeframe for independence and South America. The 1890s is a random distractor. 1914 to 1918 is the time period of the First World War. 1945 to 1948 is the timeframe of decolonization of many non-African British and Dutch colonies such as India, Indonesia, and Palestine.

41. B There are many areas of the earth where energy resources are known to be but have not been studied in detail in terms of the actual volume contained in, for example, a natural gas field. Thus, the term “potential reserve” is used to designate areas which *potentially* have large amounts of future resources which are uncalculated. Proven reserves are known when the volume of resources have been studied and scientifically estimated for their volume. An energy deficit is when a country consumes more energy than what it produces. This is the opposite of energy surplus, where countries produce more energy than they use. The production volume of a country is the actual amount of energy produced, but has nothing to do with consumption or reserves.
42. C Newer forms of manufacturing rely upon very sophisticated and *flexible* systems of inventory supplies and parts assembly. Having just-in-time production means that manufactures can reduce costs by not storing large inventories of spare parts. Footloose industries are firms that are not tied to supply chains, natural resources, or consumer locations. Tertiary production refers to service industries, which wholesale, transport or retail manufactured goods. Craft manufacturing uses minimal mechanization and incorporates hand-made products to create cultural goods. Cottage industries are the types of manufacturing which take place in homes or residences.
43. C Break-in-bulk points are exactly what they say they are. For instance, an oceangoing ship carrying wheat is off-loaded, in port, to a waiting train. The bulk of the wheat from the ship’s hold has to be broken up into smaller units to fit into the several rail hopper cars. Resource nodes are where natural resources are connected to lines of transportation to extract them. Export processing zones are manufacturing districts where goods are made specifically for export to foreign countries. The PLVI is the *peak land value intersection*, the highest-priced piece of land in the CBD or *central business district*. Transport nodes are where two or more lines of transportation intersect.
44. B Thomas Malthus, the father of Malthusian and neo-Malthusian theories regarding population growth, was concerned in the early 1800s that human populations would one day outgrow their ability to feed themselves. In contemporary terms, what neo-Malthusians are saying is that human populations will exceed the global *carrying capacity*—the earth’s environmental ability to provide food, clean air and water, and other resources such as energy, sustainably to people.
45. E A country that has a shrinking population (negative RNI) is most likely a First World service-based economy such as those found in Western Europe. In this situation, there is a highly educated population that has few new workers entering the workforce for jobs that require lower education levels—a deficit of low-skill service laborers to work in less-desired jobs. Therefore, it is necessary to bring in labor from the outside (guest-workers or *gastarbeiter*) to do the work the highly educated population does not care to do; for example, sanitation workers, cleaners, and restaurant workers. Relate what you know about rates of natural increase, the difference between birth rates and death rates, to the demographic transition model. Countries with low RNI are most likely in stage four. These same countries have high GNP per capita. In First World countries we see an increase in women entering management, scientific, and political positions. Open border policies are not relevant, and are a distractor here. Likewise (D) is a distractor in a way like (B), where you should expect an increase in environmental laws in countries that have low RNI.

46. C The replacement rate is a total fertility rate of 2.1. For a population to replace itself, you must have two offspring, plus you must add an error factor of 0.1 to account for children who will not live to adulthood; those who die of childhood disease, accidents, and so on.
47. A As a science, epidemiology is a meeting place between geography and medicine. Look at the roots of the word, epidemic, and -ology. The main distractor answer is (C), contagious diffusion; this term describes the movement of ideas or technology in a pattern that is similar to disease, but not disease itself. Technological diffusion describes the pattern in which technologies move across space. Redlining is an illegal technique once used by insurance companies to designate areas where people would not be insured. Geomorphology is the science in which geology meets geography as a study of landforms.
48. B The Fertile Crescent is a region that spans the ancient civilizations of the Middle East. It is the curved area from the Nile through the Levant and over to the Tigris and Euphrates rivers, where land could be cultivated. Choice (A) is the broad peninsula that includes Saudi Arabia, Yemen, Oman, Qatar, and the United Arab Emirates. The Anatolian migration is believed to be one of the two possible routes of the Indo-European population and language traditions from Asia and Europe. Choice (D), the Maghreb, is the region of northwestern Africa, including Morocco, Algeria, Tunisia and Libya. Choice (E) was a movie starring Orlando Bloom about the end of the Third Crusade.
49. D Oil and gas are produced in three major areas in the Middle East. One is North Africa (not pictured), the Persian Gulf, and the Caspian Sea region. Al-Qaeda does not control any territory. U.S.-led military coalitions exist only in Iraq and Afghanistan. The Kurdish people exist in the borderlands of northern Iraq, Eastern Turkey and Northwestern Iran. (E) Irrigated agriculture exists in the Tigris and Euphrates River systems, and in areas where there has been groundwater pumped to the surface for agriculture in this region.
50. E The exception to the cities listed on the map is Tehran. The other cities are all national capitals like Tehran. All are primate cities, have populations over one million people, and none of them are seaports. The difference here is the location. What you need to recognize here is the location of majority Shiite populations in the Middle East. Shi'a Islam is primarily in Iran, in parts of Iraq and few other scattered locations.
51. E This definition-example question asks you to recall the concept of political-economy then; identify a form of political economy, free-market parliamentary democracy; and finally, related to the given example, Canada. Canada is a member state of the Commonwealth of Nations, signifying its former status as a British colony. Canada still recognizes the British monarch as its titular *head of state*. Canada is not however, a "dependent territory" of its former colonizer, the United Kingdom. An example of a British dependent territory would be a place such as Gibraltar, the Turks and Caicos Islands, or Ascension Island. Despite Canada having a strong government-led social welfare program influenced by socialism, Canada's political economy is not guided by a Marxist ideology. Supranational organizations are collection of sovereign states working together towards a common goal.
52. C This definition-example question requires you to apply a principle from one part of the world to that of the United States. Mediterranean agricultural products such as lemons, olives, avocados, artichokes, and almonds, are specialty crops grown in central and Southern California in its warm, temperate climate. Despite its northern latitude Hawaii sits in the middle of the

- Pacific Ocean; it has a very tropical climate with significant moisture. The upper Midwest sits in a temperate climate. The Garden State vegetable-growing areas around New Jersey and New York are similar in climate and moisture to the Atlantic Coastal Plain.
53. **B** Economic restructuring is when a state shifts from one type of economy to another. Since the 1980s and '90s, as the former member states of the Soviet Union and countries in Eastern Europe have abandoned communism, free-market capitalism has come to replace the old communist command-economy system. Socialization is a distractor in that is a sound-alike term for socialism, which was part of the former Soviet Union's political economy. Nationalization is when governments take privately owned business and make them government-owned entities, the opposite of what is happening in the former communist Europe. Choices (D) and (E) are both terms used as distractors as they refer historically to the time before the transition to free markets.
54. **A** Soil salinization occurs when irrigation in arid regions causes the accumulation of mineral salts on the surface of soils. When irrigation water is spread on crops, the high daytime temperatures evaporate much of that water. This process of evaporation causes minerals in the soil to rise to the surface. The evaporated mineral salts can "poison" the plants farmers are trying to grow. Deforestation can lead to things like desertification and damage soil quality. There is not enough information in this answer to determine whether soil salinization will be a direct result. Loess soil is very rich in nutrients, and excessive plowing in these regions may cause soil erosion, but may not deplete the high-nutrient quality of soils. Build-up of fertilizers and pesticides over time may also be harmful to the environment, but does not salinize soils.
55. **B** Secondary industries, where industrial production depends on a single natural resource, tend to be located close to that resource. Perishable goods are things that have a short shelf life and need to be close to the consumer retail locations. Products that are distributed through a chain of retailers are located centrally amongst the market areas of those retailers. With the onset of online retailing, many warehousing operations are commonly located at airports, where shipping companies have large distribution facilities. In this way they can get their products to consumers within a short time after the products are ordered.
56. **D** Gerrymandering, in the case of U.S. congressional districts, occurs when state-level politicians redraw the boundary lines of voting districts and create areas that can be long and slender or spread apart, connecting different clusters of similar voters. Some suburban municipalities have been created to serve wealthier residents or specific industrial firms. Choice (C) is *redlining*. Choice (D) is the process of municipal annexation, where outlying areas would be added to cities and their services, such as sewers and water systems. Overlapping public-service areas is seen as a public administration problem for many communities the United States.
57. **A** The Human Development Index (HDI) was a statistic created by the United Nations to compare rates and levels of a country's combined social and economic development. Quality-of-life issues such as life expectancy and education rates, which could be quantified, were integrated with economic indicators (like GNP *per capita*) to get a better picture of the overall *standard of living*. The other answers in this question are all quantitative measures, which incorporate the value of goods and services produced in the country as a means of determining a country's economic volume or productivity.

58. **D** Deindustrialization is what the United States, Western Europe, and the old Asian Tiger economies such as Japan have experienced economically over the last few decades. Their economies have shifted away from manufacturing as the primary source of economic production, and toward services, specifically those driven by high technology as the new force behind development. Newly industrialized countries (NICs) are those shifting away from agriculture and towards manufacturing. Fordism represents the mode of production during the manufacturing era of American industry. The industrial revolution can be thought of as a time period when Western Europe and the United States were themselves newly industrialized countries, historically. Market capitalism is a constant means of accumulation of wealth within free-market societies.
59. **E** Much of the drive during the 1960s, 1970s, and 1980s in the United States to develop commercial office space in suburban central business districts was from the realization by businesses that much of the consumers and labor force for the emerging service economy were located in suburbs. Thus, it made sense on a regional scale to locate new businesses close to these consumers and workers instead of in the traditional old downtown central business district (CBD).
60. **C** The United Nations Conference on the Law of the Seas (UNCLOS) established and codified international boundaries systems at sea. One boundary system was the 12-nautical-mile territorial sea within which all the laws of that country apply. At 200 nautical miles (nm) a second boundary exists within this exclusive economic zone (EEZ); that country controls all of the natural resources within that zone. Beyond this 200 nm limit are *international waters* or the *high seas*. SEZs are a sound-alike distractor, and are export processing zones in China. Sovereign territory mainly includes land, but can also include a 12-nautical-mile territorial sea.
61. **B** The elite residential sector falls on either side of the spine, where the main boulevard leads out of the city center. These boulevards were dictated by the Laws of the Indies, Spanish colonial laws, which included details on how cities should be laid out. These wide main boulevards symbolize wealth and status and thus became locations for the elites and wealthy of the community.
62. **A** The Laws of the Indies dictated that the center of the city have a plaza, usually a square marketplace, around which would be located the centers of governance, commerce, and religion, symbolized by a Catholic cathedral or Basilica. These features mimic the central squares found in Spanish cities in Europe, such as the Plaza Mayor in Madrid.
63. **E** Most squatter settlements in the Latin American city model are located on the outer part of the city, or *urban periphery*. However, some squatter settlements exist in areas close to the center of the city where more people traditionally would not build housing, such as river banks, steep hillsides, and polluted areas such as industrial parks and trash dumps. The “zones of disamenity,” despite the many social problems that exist in them, provide their poor residents with much closer access to downtown areas and jobs than those living in peripheral squatter settlements.
64. **D** The zone of *in situ* accretion is the second ring outside of the central business district and lies immediately outside the zone of maturity. Under the Laws of the Indies, only those of European descent were allowed to live inside the city walls. The housing in this segregated area is known as the zone of maturity, because of its more European-style architectural

- elements. The zone of *in situ* accretion is outside of this, where people of mixed or indigenous descent settled during the colonial era. The resulting housing in this area used mainly local materials like mud brick (hence the “*in situ*” or “in the ground” reference) and architectural elements, and thus has a very different structure and look than the urban landscape.
65. C Agroindustry firms have focused the latest in genetic engineering technology to create plant and animal varieties that are resistant to a number of pests, which include insects and fungus. Heirloom varieties are older *cultivars* (subspecies), which are not popular in the modern market, and are grown mainly by specialty farmers. Organic farming accepts that some crops will be lost to pests, but also incorporates crop rotation strategies, which minimize the impact of one pest type on a specific crop. Farmers do this by not growing the exact same plant varieties year after year. Value-added agriculture is the processing of raw agricultural goods on the farm, to add additional value, such as cheese and wine. Artificial fertilizers provide nutrients for improving only the soils. Don’t confuse fertilizers with chemical pesticides that do kill bugs, fungi, rodents and the other things that destroy crops.
66. C Kinetic hydropower (waterwheels as opposed to electric hydropower) was the main source of energy for early industrial production in Europe and North America. Transportation is an important aspect of production, but alone does not determine industrial location. Timber, as fuelwood, was an important energy source in the pre-electricity era. However, wood was never cultivated in a large centralized fashion to provide for manufacturing energy needs. Choices (D) and (E) are both concepts of *growth poles*, which become important factors for industrialization in the twentieth century, but not during the early industrial revolution.
67. A Newly industrialized countries (NICs) are those which are shifting away from agriculture towards manufacturing, as the primary source of economic production. The list of states with NIC status includes Brazil, Mexico, India, China, Vietnam, Malaysia, Thailand, Indonesia, Singapore, Nigeria, Gabon and a few other states that could be considered “borderline” such as the Philippines. Choice (B) are states in Africa identified as potential NIC states over the long-term. Choice (C) are former communist states going through economic restructuring. Choices (D) and (E) are, today, postindustrial states, whose economic development is mainly focused on services and are experiencing a decline in manufacturing productivity.
68. E The North Atlantic Treaty Organization (NATO) and the Warsaw Pact, adversaries during the Cold War, are examples of a supranational organization; a group of states aligned for a common purpose, in this case, military operations. Supranational organizations focused on economic cooperation would be groups like NAFTA or the European Union. Free trade also refers to economic cooperation. By the time irredentism led to armed conflict in the former Yugoslavia, the Warsaw Pact was defunct. NATO and the Warsaw Pact existed after World War II.
69. D The peak land value intersection (PLVI) is generally the main intersection in a central business district, around which can be found the highest real estate prices in the metropolitan area. One thing to keep in mind is that the high prices in CBDs exist because commercial office space is leased by the square foot, whereas homes are sold on land units in acres. Choices (A) and (B) are both spatial concepts that explain the likely origins of a city, or why an urban place was originally settled, but they aren’t the part of town where prices are highest. Central place theory is useful in understanding why a place became prominent economically compared to other like places.

70. E This question refers to the Frostbelt to Sunbelt shift in population, that is the internal migration within the United States that has been seen since World War II. From the traditional population centers of the northeastern United States since the 1940s, Americans tended to migrate to the quickly growing cities of the South, Southwest, and Pacific Coast regions of the United States, such as Atlanta, Phoenix, and the San Francisco Bay area. Choice (A) is the opposite of the Frostbelt to Sunbelt shift. With areas staying the same and population growing, mathematically *population density* would have to increase overall. Although the population centroid, or the center population density of the United States, is located in the Midwestern states, the states are less densely populated than the coastal regions. From the 1960s onward, population density around central business districts has declined on average.
71. C Dependency ratios are defined as the proportion of the population that is not in the labor force, that is, those age 15 and under and those age 65 and above. The *dependent* population is those ages 0 to 15 and over 65. Therefore, you should look at the pyramids that have the largest bases and/or large top areas.
72. E As a postindustrial country in stage four of the demographic transition, the United States has both low birth rates and low death rates and a population which is growing slightly. Therefore, you would expect to see a column-shaped population pyramid that is only slightly larger at the bottom than it is at the top.
73. D Germany is an example country where there is a negative rate of natural increase (RNI). Thus, the German population is shrinking ever so slightly each year. Like the United States, the German population pyramid will be column shaped. Unlike the U.S. pyramid, the bottom of the German column will be smaller than layers at the top, due to the larger older population.
74. C Like many other mixed cultures in Latin America, the Creole culture combines different ethnicities. In the Caribbean region, the mixture includes both the genetic and cultural heritage of Native Americans, Africans, and Europeans. These are all groups from the pre-colonial and colonial periods, which have since intermarried. Likewise, these cultures have been integrated into one another, creating new cultural forms that show influences from each of the different groups. For examples, look to Louisiana's Creole cooking traditions and Mardi Gras traditions and costumes.
75. B This EXCEPT question requires you to discern which high or low category is incorrect in this case. Manufacturing firms seek out the least-cost factory locations for low-profit-goods manufacturing. These locations tend not to be in areas that have stringent environmental regulations. Environmental controls to reduce air and water pollution or solid waste tend to increase the costs of production for manufacturing firms. Therefore, countries that enforce environmental laws tend to not attract companies working on narrow profit margins.

SCORING RUBRICS AND SAMPLE ESSAYS

Again, please do yourself a favor and don't look at the following section until you have completed the essays in Practice Test 2.

As mentioned in the previous section, in this part you will have a chance to take a look at the scoring rubrics, the answer key for the essays, and the 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, lower-scoring essay. Then we'll show you the same essay, slightly modified, that scores far better according to the rubric.

Once you've read each rubric, the average essay and the improved essay, go through both essays and write a shorthand outline of the material that you see in each. 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, AGAIN

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 the top-scoring essays look like and training yourself to write more detailed essay, you will score well above average.

SCORING RUBRICS FOR FREE-RESPONSE QUESTIONS

1. Explain **TWO** push factors and **TWO** pull factors that affect rural-to-urban migrants in newly industrialized countries (NICs). For new rural-to-urban migrants, describe the conditions of housing found in most industrial cities within NICs.

Rubric

$$4 + 4 + 2 = 10 \text{ points}$$

For each of the A (push) and the B (pull) sections:

0 points for no valid factors

1 point for a simple factor statement or keyword

2 points for a cause-and-effect-type discussion of factor's impact on migration

+

0 points for no additional valid factors

1 point for a second simple factor statement or keyword

2 points for a second cause-and-effect-type discussion of factor's impact on migration

= a total of 4 points per section

Note: The opposite of a push factor cannot count as a pull factor and vice versa.

- A. Push factors (4 points total. Maximum of 2 points per factor.)
 1. Armed conflict or civil war, narcotics production
 2. Increased cost of land, rent or agricultural inputs (seed, chemicals, and so on.)
 3. Effects of environmental pollution, water contamination, chemical poisoning
 4. Natural disasters
- B. Pull factors (4 points total. Maximum of 2 points per factor.)
 1. Availability of industrial and service jobs
 2. Jobs in cities tend to provide year-round (as opposed to seasonal) work with consistent pay

3. Access to public services (medical, schools, utilities—do not accept “clean water” or housing as examples of public services)
 4. Proximity to entertainment, sport facilities
 5. Increased communication and social networking activities
- C. Housing Conditions (2 points)
- 0 points for no condition of the quality of housing or low availability of services
 - 1 point for basic condition of poor housing quality or low service availability.
 - 2 points for basic condition of poor housing quality AND low service availability.
- Poor housing conditions: cramped and expensive available housing; many people forced to exist in squatter settlements and provide their own housing materials; settlements in hazardous and unsafe areas; settlements far from city centers in urban periphery.
- Low service availability: Limited public health facilities for poor migrants as there is often little access to electricity, clean water, sanitary sewers, energy supplies for heating and cooking fuel; poor access to public transit, and public safety agencies tend to not serve squatter communities.

2. Use the diagram to answer the following questions:

- A. Use generalized examples to explain the changes in birth rates and death rates across the Demographic Transition. Be sure to describe how these changes affect total population over time.
- B. Using social and economic characteristics, describe where you would place the following two counties in the model:
 - Sweden
 - India

Rubric

$(2 + 2 + 2 + 2) + (1 + 1) = 10$ Points

- A. Four Stages (2 points per stage)
Must explain birth and death rates for 1 point and population change for the second point.

Stage One

- | | |
|-------------------|---|
| Birth Rates: | High due to more children being seen as additional labor; or increased fertility due to high infant mortality. |
| Death Rates: | High due to poor nutrition, epidemics, war, or lack of food trade; seasonal migrations for resources take a toll on population. |
| Total Population: | Remains low overall. |

Stage Two

- Birth Rates: High due to more children being seen as additional labor; or increased fertility due to high infant mortality.
- Death Rates: Decreasing due to better nutrition, education, food trade networks, less warfare, location stabilization (no need to migrate seasonally).
- Total Population: Increases as a result of comparatively high birth rates.

Stage Three

- Birth Rates: Decreasing fertility due to rural-to-urban migration, less need/time/space for children. Increased mechanization on farms.
- Death Rates: Decline and bottom-out due to better medical care, attention to sanitation, nutrition or education.
- Total Population: Continues to increase due to higher birth rates.

Stage Four

- Birth Rates: Bottom out due to large numbers of women active in the labor force; contraception availability; decreased marriage/increased divorce/single parent household rates.
- Death Rates: Continue to stay low due to medical care, attention to sanitation, nutrition or education.
- Total Population: Levels off, can decrease.

B. Locations on the Model

Sweden: Must be in stage four where birth rates are below death rates due to negative rate of natural increase (RNI).

India: Can be on the intersection of stage two and stage three or early in stage three due to its status as a newly industrialized country (NIC).

3. Describe the advantages and disadvantages posed by nuclear power in comparison to fossil fuel resources. Address the following issues in your comparison:
- A. air pollution
 - B. environmental safety
 - C. waste management

Rubric

3 + 3 + 3 = 9 Points

For each of the three sections (no more than 3 points available per section):

0 points for no valid advantages or disadvantages

1 point for an advantage or disadvantage basic statement

2 points for a strong comparison; or two basic statements (one advantage and one disadvantage)

3 points for a strong comparison with an example; or two basic statements with example

Do not accept arguments associated with nuclear weapons (except in C. Disadvantage 3)

A. Advantages of nuclear:

1. Eliminates carbon emissions
2. Reduces greenhouse gas emission
3. Eliminates acid rain pollution
4. Reduces smog and potential for respiratory diseases in the local population

Disadvantages of nuclear:

1. Risk of radioactive steam leaks
2. High cost of nuclear plants compared to coal powered plants
3. Radioactive dust pollution at uranium mining sites

B. Advantages:

1. Uranium has smaller mining impacts; strip mining of coal is destructive to the natural landscape on a large scale. Uranium mining requires much smaller volumes to produce same amount of energy.
2. Coal mining leads to water pollution near mine sites.
3. Particulates from fossil fuel burning can cause asthma and other respiratory diseases to plant workers and local residents; coal miners can suffer from "black lung" disease.
4. Cost of safety features to prevent and clean up oil spills, gas leaks, and coal mine accidents.

Disadvantages:

1. High cost of safety features and monitoring at nuclear plants
2. Risk of plant accidents, e.g. core meltdown (you may not accept nuclear explosions) or fire to the region around a nuclear plant
3. Risk of nuclear plants as targets for terrorist activity

C. Advantages:

1. Students may state that there are few to no solid waste products from the combustion of fossil fuels other than the aforementioned air pollutants or oil spills. (They may not leave this blank.)

or

2. Fossil fuels can create hazardous materials as byproducts of refining petroleum.

Disadvantages:

1. Long-term storage of spent nuclear fuel requires several thousand years of managed underground storage.
2. Short-term storage of spent nuclear fuel requires on-site storage at plants where they are at risk for fire or terror attack.
3. Reprocessing of spent uranium fuel creates weapons-grade plutonium, which can be used to create nuclear weapons.

FREE-RESPONSE QUESTION SCORE SHEET

1.	push 1	push 2	pull 1	pull 2	housing		Total
	_____	_____	_____	_____	_____	=	_____
	0, 1 or 2	0, 1 or 2	0, 1 or 2	0, 1 or 2	0, 1 or 2		out of 10
2.	stage one	stage two	stage three	stage four	i.	ii.	Total
	_____	_____	_____	_____	_____	+	_____
	0, 1 or 2	0, 1 or 2	0, 1 or 2	0, 1 or 2	0 or 1	0 or 1	= out of 10
3.	a.	b.	c.	Total			
	_____	_____	_____	= _____			
	0, 1, 2 or 3	0, 1, 2 or 3	0, 1, 2 or 3	out of 9			

Total Points out of 29 possible, with a goal of at least 17 points (58.6 percent).
Let's go to the examples.

SAMPLE ESSAY 1

1. Newly Industrialized Countries (NIC's) are characterized primarily by a shift from an agricultural economy to one based on manufacturing. As a result, increased numbers of people are moving from the rural countryside into developing urban areas. Several factors contribute to this rural to urban migration and can be categorized as either "push" or "pull" factors. Push factors are essentially those that make rural life more difficult, including decreased value of crops and poor access to healthcare. "Pull" factors, or those that make urban life more attractive, include availability of manufacturing jobs at increased wages and decreased cost of living.

In general, people who have made a living based on agriculture for generations are used to fluctuating economic conditions and resistant to urban migration. However, in many of the NIC's, including Brazil and Mexico, several factors have pushed people into more densely populated areas. The first "push" factor is the decrease in the global prices of agricultural crops. Farmers in NIC's are finding it more and more difficult to make a living off the land and are therefore choosing to move into the cities in greater numbers. In addition, poor access to healthcare (including doctors and medication) has pushed urban migration in Newly Industrialized Countries.

By contrast, there are also several factors that "pull" migrants into cities. As the general economy of the NIC's moves from agricultural to manufacturing based, more factory jobs become available. These jobs are quite attractive to former farmers who are no longer able to make a living off their land. Also, the cost of living in the cities is decreased compared to that of the countryside. Housing and groceries are more affordable in urban areas. People who used to have a difficult time making ends meet in rural areas are suddenly finding access to amenities like recreation and luxury goods. All of these factors "pull" migrants from rural into urban areas.

Both Mexico and Brazil are good examples of Newly Industrialized Countries. At present time, there is a fundamental shift in these countries from an agricultural based economy to a manufacturing based one. This shift has created a situation where rural homes are less attractive and better quality homes in urban areas are more attractive to citizens. Both “push” and “pull” factors described above are responsible for the increased rural to urban migration that essentially defines the Newly Industrialized Countries.

1.	push 1	push 2	pull 1	pull 2	housing	Total
	$\frac{2}{0, 1 \text{ or } 2}$	$+$ $\frac{0}{0, 1 \text{ or } 2}$	$+$ $\frac{2}{0, 1 \text{ or } 2}$	$+$ $\frac{1}{0, 1 \text{ or } 2}$	$+$ $\frac{0}{0, 1 \text{ or } 2}$	$=$ $\frac{4}{\text{out of } 10}$

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

1. In many NICs, increasing numbers of people are moving from the rural countryside into developing urban areas. Several factors contribute to this rural to urban migration and can be categorized as either “push” or “pull” factors.

In general, people who have made a living based on agriculture for generations are used to fluctuating economic conditions and resistant to urban migration. However, in many of the NICs, including Brazil and Mexico, several factors have pushed people into more densely populated areas. The first “push” factor is the decrease in the global prices of agricultural crops. Farmers in NICs are finding it more and more difficult to make a living off the land and are therefore choosing to move into the cities in greater numbers. Likewise in Mexico, many farmers are caught up in the decision to farm drugs like opium or marijuana versus less-profitable food crops. Those who choose not to farm drug crops are often scared-off their land by narco-traffickers. These poor people often have no choice but to move to cities for safety.

By contrast, there are also several factors that “pull” migrants into cities. As the general economy of the NICs moves from agricultural to manufacturing based, more jobs at higher wages become available. These jobs are quite attractive to former farmers who are no longer able to make a living for their families off the land. Most migrants are eager for a regular paycheck compared to the seasonal pay they received farming. With the increase in factory job availability in NICs there is a high demand for low-cost workers. These jobs, despite paying far less than factory jobs in MDCs pay far better than farming and therefore draw many people, both men and women to the cities.

Both Mexico and Brazil are good examples of Newly Industrialized Countries where people moving into cities from rural areas find that there is little available housing in cities. Often migrants are forced to provide for their own home in squatter settlements of the urban periphery. People collect scrap wood, metal and plastic to quickly construct “houses” until they can come up with something better. These “shanty towns” often have no services or utilities like clean water or flush toilets. Disease outbreaks are a problem in these areas the health of children in these areas is often poor.

Essay 2

2. The first stage of the Demographic Transition model represents a prehistoric or hunting/gathering type of society. Both the birth and death rates are particularly high and remain about the same in relation to one another. People in this time period had a very difficult time meeting their basic needs for food and shelter. The “name of the game” is one of survival. People did not live very long. Therefore multiple children were essential to the survival of the species but resulted in little population growth and change overall.

Stage 2 of the Demographic Transition model illustrates the differences that an agricultural based economy has on the birth and death rates. As people settle down and begin to farm the land and domesticate animals to meet their basic needs for food, the death rates begin to decline down into the range of 10-30 per every 1000 people. Basic needs are being met more efficiently than in the hunting/gathering societies and thus quality and length of life improves. Children are still seen as a sign of prosperity so the birth rates remain high. India is a good example of a country that falls into stage 2 on the Demographic model. Although it is slowly becoming more industrialized, the majority of India’s population still farms for a living and produces very little excess to export and build monetary wealth.

The transition of a population into an industrialized economy is shown in stage 3 of the Demographic model. This stage is characterized primarily by a decline in birth rates down into the range of 10-30 per 1000 people. There is an interesting lag in the fall of the birth rates behind the fall in death rates (as seen in stage 2). In an industrializing economy, wealth is produced in excess of what is needed to provide for basic food and shelter. Monetary wealth now becomes an important measure of success rather than multiple offspring. There is less time and need for having children. All of this contributes to the falling birth rate. This stage is certainly one of great transition for a population.

Stage 4 of the Demographic model shows a post-industrial or modern society. The birth and death rates are similarly low (around 8 per 1000 people). Modern standards of healthcare and economic success contribute to these low birth and death rates. The interesting characteristic of stage 4 is that the birth rate can occasionally fall below that of the death rate. This represents a very significant change from the previous 3 stages. Sweden is a prime example of a post-industrialized nation that falls well within stage 4 of the Demographic Transition model.

2.	stage one	stage two	stage three	stage four	i.	ii.	Total
	$\frac{2}{0, 1 \text{ or } 2}$	$+$ $\frac{0}{0, 1 \text{ or } 2}$	$+$ $\frac{0}{0, 1 \text{ or } 2}$	$+$ $\frac{1}{0 \text{ or } 1}$	$+$ $\frac{0}{0 \text{ or } 1}$	$+$ $\frac{0}{0 \text{ or } 1}$	$=$ $\frac{3}{\text{out of } 10}$

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

2. The first stage of the Demographic Transition Model represents a prehistoric or hunting/gathering type of society. Both the birth and death rates are particularly high and remain about the same in relation to one another. People in this time period had a very difficult time meeting their basic needs for food and shelter. The “name of the game” is one of survival. People did not live very long. Therefore multiple children were essential to the survival of the species but resulted in little population growth and change overall.

Stage 2 of the model illustrates the difference that an agricultural based economy has on the birth and death rates. As people settle down and begin to farm the land and domesticate animals to meet their basic needs for food, the death rates begin to decline down into the range of 10-30 per every 1000 people. Basic needs are being met more efficiently than in the hunting/gathering societies and thus quality and length of life improves. Children are seen a source of agricultural labor so the birth rates remain high. This difference between high birth and lowering death rates results in an expanding population. India is a good example of a country that falls into latter part of stage 2 on model. Although it is becoming more industrialized, the majority of India's population still farms for a living and produces very little excess to export and build monetary wealth.

The transition of a population into an industrialized economy is shown in stage 3 of the Demographic model. This stage is characterized primarily by a decline in birth rates down into the range of 10-30 per 1000 people. Birth numbers decline as a result of urbanization of the population. In cities compared to farming areas, there is less time and need for having children. The death rate declines due to better healthcare for people and better sanitation in cities which increases lifespan. The difference in births and deaths continues to cause population growth, but it slows down later in stage 3.

The final stage of the model shows a post-industrial or modern society. The birth and death rates are similarly low (around 8 per 1000 people). Modern standards of healthcare and economic success contribute to these low birth and death rates. As a result population growth plateaus with little growth, if any. The interesting characteristic of stage 4 is that the birth rate can occasionally fall below that of the death rate. Sweden is a prime example of a post-industrialized nation that falls in this negative growth period in stage four of the Demographic Transition Model.

Essay 3

3. Nuclear power has been touted by supporters as the "magic bullet" of sorts that will solve both the planet's current energy crisis and environmental calamity. On the surface, nuclear energy appears to be an obvious "clean" replacement for fossil fuel resources. However, it is important to note that nuclear energy is not without significant risks to the environment. With respect to the issues of air pollution, environmental safety, and waste management, both nuclear energy and fossil fuels have significant advantages and disadvantages.

Nuclear power definitely has an advantage over fossil fuel resources when it comes to air pollution. Carbon emissions are virtually eliminated in the production of nuclear energy. Compare that to the burning of fossil fuels, which is the primary contributor to the air pollution that is responsible for global warming (according to Al Gore, of course). Replacing fossil fuel energy with nuclear power stands to have a significant positive impact with respect to global climate change.

Environmental safety is an important concern with both nuclear power and with fossil fuel resources. Nuclear power plants are risky to operate because of the potential for accidents that can leak radioactive materials into the surrounding air and groundwater. This poses a major environmental and health risk for the community. Fossil fuels also pose a risk to the community with respect to environmental and occupational safety. Coal mines, for example, are on par with nuclear power plants as particularly treacherous places to earn a living.

Waste management appears to be the primary concern with nuclear power. Much in the same way that fossil fuel burning contributes to air pollution, the routine production of nuclear power contributes to “earth pollution” by generating radioactive waste that must be managed. In fact, finding a solution to the problem of nuclear waste may be the deciding factor on whether or not nuclear power will replace fossil fuel resources as a primary source of energy for the planet.

3.	A.	B.	C.	Total			
	$\frac{3}{0, 1, 2 \text{ or } 3}$	$+$	$\frac{2}{0, 1, 2 \text{ or } 3}$	$+$	$\frac{1}{0, 1, 2 \text{ or } 3}$	$=$	$\frac{6}{\text{out of } 9}$

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

3. Nuclear power has been touted by supporters as the “magic bullet” of sorts that will solve both the planet's current energy crisis and environmental calamity. On the surface, nuclear energy appears to be an obvious “clean” replacement for fossil fuel resources. However, it is important to note that nuclear energy is not without significant risks to the environment. With respect to the issues of air pollution, environmental safety, and waste management, both nuclear energy and fossil fuels have significant advantages and disadvantages.

Nuclear power definitely has an advantage over fossil fuel resources when it comes to air pollution. Carbon emissions are virtually eliminated in the production of nuclear energy. Compare that to the burning of fossil fuels, which is the primary contributor to the air pollution that is responsible for global warming (according to Al Gore, of course). Replacing fossil fuel energy with nuclear power stands to have a significant positive impact with respect to global climate change.

Environmental safety is an important concern with both nuclear power and with fossil fuel resources. Nuclear power plants are risky to operate because of the potential for even minor accidents that can leak radioactive materials into the power plant. This poses a major environmental health risk for workers and their families. Fossil fuels also pose a risk to the community with respect to environmental and occupational safety. Coal mines, for example, are on par with nuclear power plants as particularly treacherous places to earn a living, due to oil fires and cave-ins at coal mines. However, safety features at nuclear plants are much more expensive than at fossil fuel-fired plants.

Waste management appears to be the primary concern with nuclear power. Much in the same way that fossil fuel burning contributes to air pollution, the routine production of nuclear power contributes to “earth pollution” by generating radioactive waste that must be managed. By comparison fossil fuels produce far less problematic waste products. For example, ash from coal burned in power plants can be landfilled. In fact, finding a solution to the problem of nuclear waste may be the deciding factor on whether or not nuclear power will replace fossil fuel resources as a primary source of energy for the planet.

HOW TO SCORE PRACTICE TEST 2

SECTION I: MULTIPLE-CHOICE

$$\frac{\text{Number of Correct (out of 75)}}{\text{Number of Correct (out of 75)}} \times 0.8000 = \frac{\text{Weighted Section I Score (Do not round)}}{\text{Weighted Section I Score (Do not round)}}$$

SECTION II: FREE RESPONSE

(See if you can find a teacher or classmate to score your essays using the rubrics in this chapter.)

$$\text{Question 1} \quad \frac{\text{(out of 10)}}{\text{(out of 10)}} \times 2.0000 = \frac{\text{(Do not round)}}{\text{(Do not round)}}$$

$$\text{Question 2} \quad \frac{\text{(out of 10)}}{\text{(out of 10)}} \times 2.0000 = \frac{\text{(Do not round)}}{\text{(Do not round)}}$$

$$\text{Question 3} \quad \frac{\text{(out of 9)}}{\text{(out of 9)}} \times 2.2222 = \frac{\text{(Do not round)}}{\text{(Do not round)}}$$

$$\text{Sum} = \frac{\text{Weighted Section II Score (Do not round)}}{\text{Weighted Section II Score (Do not round)}}$$

AP Score Conversion Chart Human Geography	
Composite Score Range	AP Score
74-120	5
59-73	4
45-58	3
35-44	2
0-34	1

COMPOSITE SCORE

$$\frac{\text{Weighted Section I Score}}{\text{Weighted Section I Score}} + \frac{\text{Weighted Section II Score}}{\text{Weighted Section II Score}} = \frac{\text{Composite Score (Round to nearest whole number)}}{\text{Composite Score (Round to nearest whole number)}}$$