SECTION I

Time—1 hour

60 Questions

Directions: Each of the questions or incomplete statements below is followed by five suggested answers or completions. Select the one that is best in each case and then enter the letter in the corresponding space on the answer sheet.
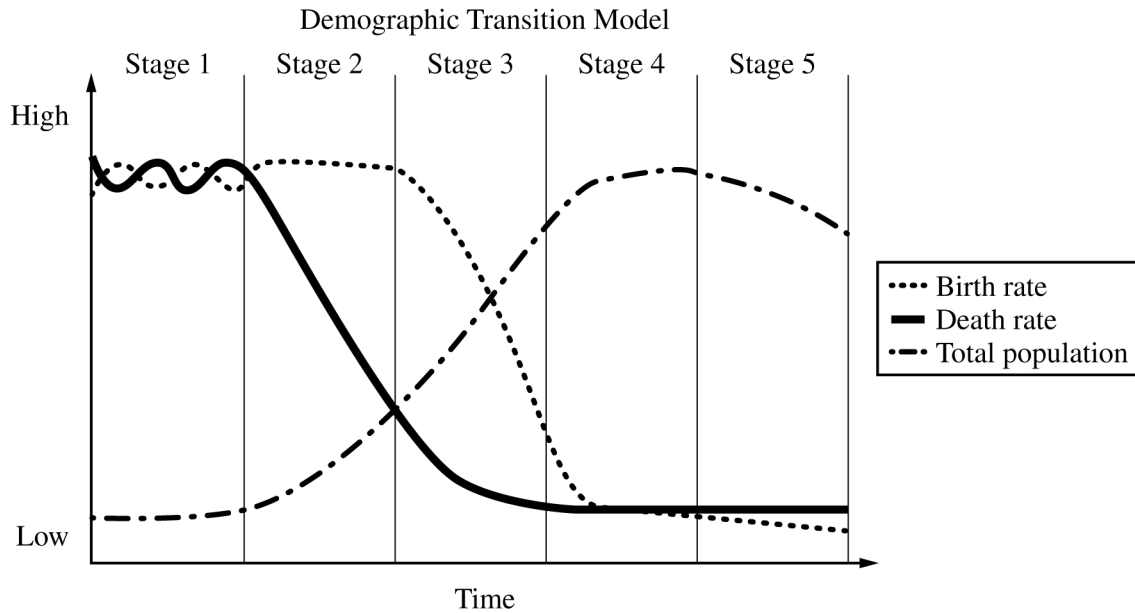
1. Which of the following terms best describes the spatial effects of the Internet on the global diffusion of culture?

    (A) Time-space convergence
    (B) Complementarity
    (C) Cultural divergence
    (D) Push factors
    (E) Pull factors

2. Which of the following describes the perspective of environmental determinism?

    (A) A twentieth-century idea that human cultures are imprinted on the landscape in different forms of land use and architecture
    (B) A contemporary ecological view that human activity is affecting the global environment toward a negative outcome
    (C) A former scientific viewpoint stating that factors within the physical geography of a region shape the local population's culture and behaviors
    (D) A theory that humans hold the ability to modify Earth's physical geography to meet the resource needs of a society
    (E) A belief system based on an ideology that humans have dominion over Earth and its natural resources

3. In the contemporary pattern of migration to cities in more developed countries, migrants are more likely to settle in

    (A) Suburban areas
    (B) The central city
    (C) Brownfield sites
    (D) Squatter settlements
    (E) Areas of gentrification

4. As Buddhism diffused through East Asia, Buddhist traditions blended with local cultural customs to create distinct religious practices, such as Daoism in China and Shinto in Japan. Which of the following terms best describes this blending of cultural traditions?

    (A) Assimilation
    (B) Acculturation
    (C) Possibilism
    (D) Multiculturalism
    (E) Syncretism

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5. Debt-for-nature swaps are financial transactions in which a portion of a developing country's foreign debt is forgiven in exchange for local investments in environmental conservation measures. Which of the following explains the significance of debt-for-nature programs?

(A) The programs utilize a dependency theory-based approach to improve local economic development.

(B) The programs provide a sustainable-development approach to reducing uneven levels of development between countries.

(C) The programs combat the economic decline of deindustrialization and improve service and technology development.

(D) The programs provide improvements in environmental health and sanitation that reduce mortality and epidemic disease rates.

(E) The programs invest in environmental education that informs youth populations about preserving economic resources for future use.

6. As a less developed country's economy evolves, the size of the primary sector, the size of the secondary sector, and the size of the tertiary sectors fluctuate. Which of the following statements best describes the highest level of job-opportunity change as countries shift from the periphery to the semiperiphery level of development?

(A) Primary sector employment increases as the country's domestic demand for food and energy increases.

(B) Primary sector employment increases as the country's economy becomes increasingly export oriented.

(C) Tertiary sector employment grows more quickly than any other sector because of foreign direct investment.

(D) Secondary sector employment increases as the demand for manufactured products increases.

(E) Secondary and tertiary sector employment declines as factories and offices are increasingly automated.

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Questions 7 - 9 refer to the graph below.

Demographic Transition Model
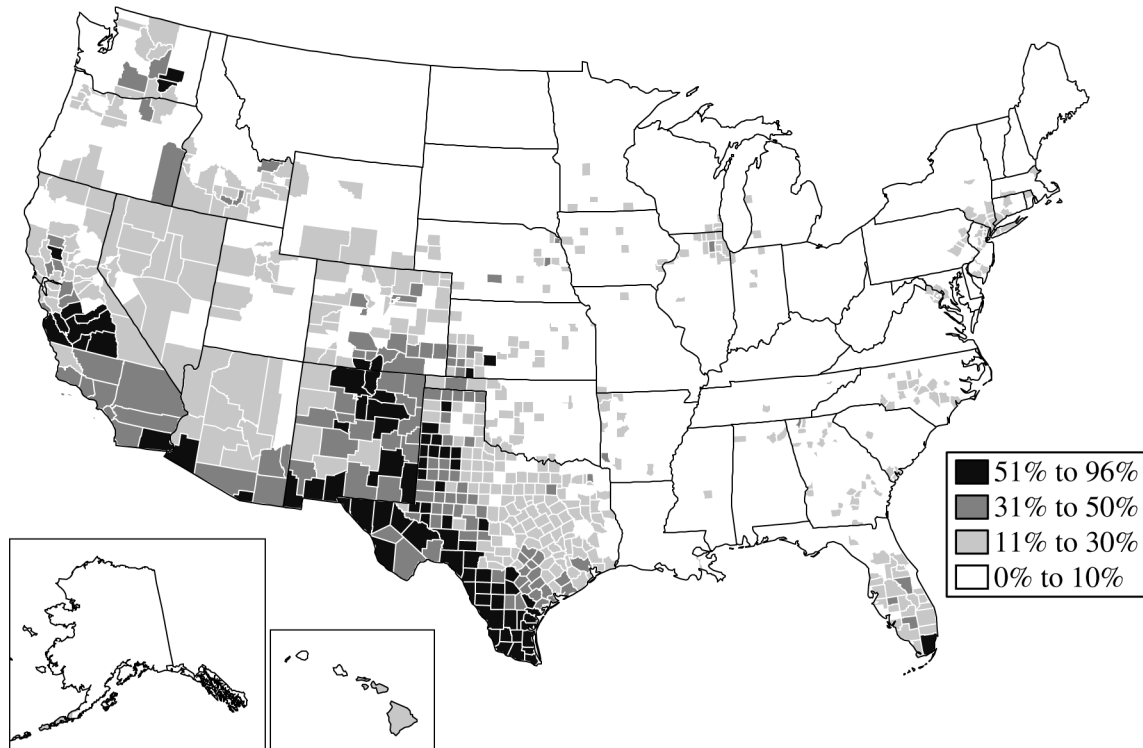

7. In the model shown, the lines for birth rate, death rate, and total population are indicators of a country's

(A) cycles of economic boom and bust over time
(B) level of social and economic development over time
(C) demographic change following a period of warfare
(D) demographic change following a period of famine
(E) demographic change following a period of totalitarian government

8. The demographic transition is a general model that seeks to explain

(A) the relationship between the size of age cohorts and natural population change
(B) how variations in population size and food supply can lead to periods of crisis
(C) the effects of changes in population size on the gross domestic product
(D) variations in population size, population migration rates, and the rate of natural increase
(E) how differences in birth and death rates result in natural population change

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9. Which of the following statements best describes how the epidemiologic transition affects the demographic transition?

(A) The epidemiologic transition occurs in stage 1 of the demographic transition, causing a fluctuation in birth and death rates.

(B) Improvements in nutrition, sanitation, and health care cause death rates to fall in stage 2 of the demographic transition.

(C) Improvements in nutrition, sanitation, and health care cause birth rates to fall in stage 3 of the demographic transition.

(D) The epidemiologic transition occurs in stage 4 of the demographic transition, causing a slowing of the rate of natural increase.

(E) The epidemiologic transition occurs in stage 5 of the demographic transition as famines and wars cause a total population decline.

HISPANIC POPULATION PERCENTAGE
BY COUNTIES IN THE UNITED STATES, 2010

Legend:
- ■ 51% to 96%
- ▨ 31% to 50%
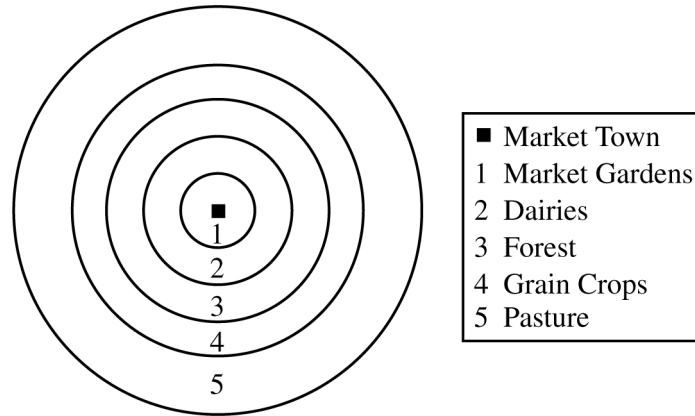- ▩ 11% to 30%
- □ 0% to 10%

Source: United States Census Bureau

10. Which of the following is a limitation of the map of Hispanic population percentage?

(A) The small size of urban counties in the eastern United States masks the significance of the Hispanic population in most eastern cities.

(B) Larger county sizes in the western United States mask the significance of the Hispanic population in most western counties.

(C) States with the largest total populations mask the significance of the Hispanic population in those states.

(D) States with the smallest total populations mask the significance of the Hispanic population in those states.

(E) The pattern shown is not different than the pattern of early Hispanic settlement during the era of colonization.

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11. Which of the following best describes the roles of women in the rural, agricultural economies of sub-Saharan Africa?

   (A) Salaried workers in large-scale commercial agriculture
   (B) Nonwage workers on small, family-run farms
   (C) Hourly workers in seasonal migratory farm work
   (D) Landowners of export-oriented farms
   (E) Drivers and operators of agricultural equipment

12. In 1798 Thomas Malthus argued that populations grew exponentially while food supplies grew arithmetically. Consequently, Malthus argued that food shortages would develop until famine and other checks slowed population growth. What statement correctly explains why Malthus' prediction did not come true in 1800s Europe?

   (A) Urbanization resulted in smaller household sizes, and the mechanization of agriculture increased food production.
   (B) Immigration to Europe and the abolition of slavery resulted in a more productive agricultural labor force.
   (C) Rising education levels among women and increased numbers of single-person households reduced fertility and the demand for food.
   (D) Antinatalist population policies placed limits on the number of children per family and reduced the demand for food.
   (E) Global trade in manufactured food products increased the food supply and offset the demand for food.
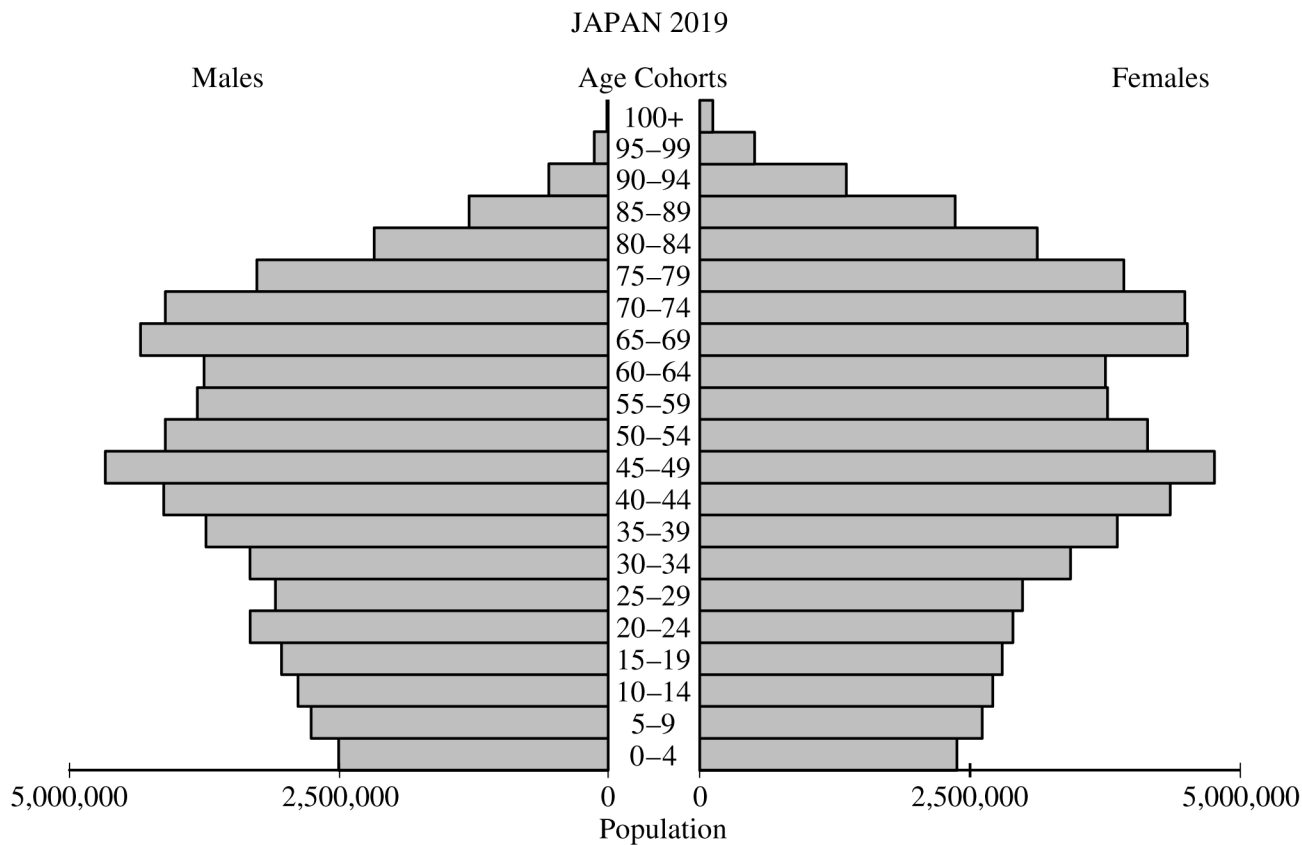
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VON THÜNEN MODEL OF AGRICULTURAL LAND USE

■ Market Town
1 Market Gardens
2 Dairies
3 Forest
4 Grain Crops
5 Pasture

13. According to the von Thünen model, which of the following economic factors determine the pattern of land use shown on the diagram?

   (A) Accessibility of railroads and highways
   (B) Costs of labor, transport, and land rent
   (C) Size and distribution of urban populations
   (D) Adoption of new farming techniques
   (E) Type of transportation and land rent

14. The United Nations Sustainable Development Goals do not mention population growth, but most of the goals will affect population growth. Which of the following statements correctly explains a link between the Sustainable Development Goals and population growth?

   (A) Reducing infant mortality rates can lead to a desire to have a smaller family.
   (B) Reducing poverty and hunger increases population growth as it makes larger families possible.
   (C) Gender equality and empowering women leads to fewer women in the paid labor force.
   (D) Combating communicable diseases and improving maternal health means more potential mothers survive and have additional children.
   (E) Economic development strategies make it possible to support larger families.

15. Which of the following forms of agriculture would best be described as extensive farming?

   (A) Citrus production and vineyards to produce table grapes
   (B) Dairy and poultry farming
   (C) Truck farming and hothouses to produce vegetables
   (D) Cattle ranching and wheat farming
   (E) Floral horticulture and tree nurseries

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JAPAN 2019

Males   Age Cohorts   Females

ESTIMATED POPULATION TRENDS FOR JAPAN

Year	Total Population	Population Age Under 16	Population Age 65 and Over
2010	127,579,145	17,546,488	29,103,030
2020	125,507,472	15,670,950	36,627,469
2030	120,751,317	13,482,155	38,886,970
2040	114,448,328	12,474,428	42,209,603
2050	107,209,536	11,657,139	42,938,885

Source: United States Census Bureau, International Data Base

16. What is the likely impact of the numerical change by 2050 of the total population on the eventual shape of Japan's population pyramid?

(A) Since the impact will be gradual over a 40-year period, the 2050 population pyramid likely will not change.

(B) Because of low birth rates over many years, by 2050 Japan will likely attain a column-shaped population pyramid.

(C) Owing to the large numbers of pregnancies in the growing reproductive-age cohorts, in 2050 the population pyramid will likely have the shape of a pentagon.

(D) Because of an increasing death rate due to an older population, in 2050 the population pyramid will likely have the shape of an equilateral triangle.

(E) Because of low birth rates over many years, the 2050 population pyramid will likely be an inverted pyramid.

17. Which of the following best explains a possible limitation of the trends assumed from the population pyramid and estimates in the data table?

(A) A period of war followed by a baby boom, similar to that of the 1940s and 1950s, is likely to occur within a generation, increasing the youth-aged cohorts.

(B) Modernization of health-care systems may result in improvements in women's health and pregnancy and result in more children being born, increasing the youth-aged cohorts.

(C) Labor shortages may cause the government to reduce the legal barriers to immigration, and immigrant populations could increase the working-age cohorts.

(D) Decreasing populations may cause an economic decline, prompting many citizens to emigrate to other more developed countries and decreasing the working-age cohorts.

(E) Production efficiencies gained from computerization and robotization of manufacturing may free parents from long work hours and result in more time to have additional children, increasing the youth-aged cohorts.

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18. What changes could local governments, businesses, and corporations make to reverse Japan's national birth patterns?

(A) Decreasing transportation costs to allow workers to commute from locations farther outside of densely populated urban centers

(B) Adding low-cost or zero-cost infant day care and preschool centers to allow mothers to return to the workforce

(C) Reducing the time off allowed for maternity leave and incentivizing working mothers to return to the workforce

(D) Enforcing a two-child policy for all families, requiring a minimum of two children per family to become eligible to receive school services and work benefits

(E) Increasing access to family planning clinics and making doctor's office visits free for women patients

19. Christianity has expanded through repeated patterns of relocation diffusion to spread to the Americas. Which of the following explains the impacts of this diffusion on Christianity in the Americas?

   (A) The repeated relocations have resulted in a wide diversity of Christian religious beliefs and practices.

   (B) The repeated relocations have resulted in a single form of Christian religious beliefs and practices.

   (C) The repeated relocations have resulted in a decline in the size of the Christian population.

   (D) The repeated relocations have resulted in a single ethnic Christian population.

   (E) The repeated relocations have resulted in a small number of ethnic Christian populations.

20. Which of the following best describes the role of the federal state in a country's political organization?

   (A) To act as a system of defense that protects subnational states from threats emerging outside of the country's international borders

   (B) To act as a single centralized economy for a collection of subnational states allied for a common purpose

   (C) To act as an overarching government for a collection of subnational states allied for a common purpose

   (D) To act as a strong centralized administration that eliminates the need for self-governing subnational or local governments

   (E) To act as a virtual public-service provider that eliminates the need for self-governing subnational or local governments

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Source: Pixabay

21. The chickens shown in the image are an example of value-added agriculture used by small family-run farms to compete with large agribusiness poultry and egg farms. Which of the following types of value-added products best describes the kind of agriculture shown in the image?

(A) Local-food movement
(B) Free-range
(C) Nongenetically modified
(D) Fair-trade
(E) Community-supported

LARGEST CITIES IN VIETNAM AND THAILAND, 2018

City	Population
Bangkok, Thailand	10.2 million
Ho Chi Minh City, Vietnam	8.1 million
Hanoi, Vietnam	4.3 million
Chon Buri, Thailand	1.4 million

Source: United Nations

22. Which of the following accurately describes the city population data in the table?

    (A) Bangkok is both a metacity and a primate city.

    (B) Hanoi is both a world city and a primate city.

    (C) Ho Chi Minh City is both a megacity and a primate city.

    (D) Hanoi is both a capital city and a primate city.

    (E) Bangkok is both a megacity and a primate city.

BIRTH AND DEATH RATES GLOBALLY AND BY REGION IN AFRICA, 2018

Area	Births per 1,000 Population	Deaths per 1,000 Population	Female/Male Life Expectancies
World	19	7	74/ 70 years
African continent	35	9	64/ 61 years
North Africa	26	6	74/ 71 years
Sub-Saharan Africa	37	9	62/ 59 years

Source: Population Reference Bureau

23. Which of the following best explains the significant difference in North Africa's demographic data from the rest of the African continent and North Africa's closer similarity to global demographic data?

(A) North African improvements in nutrition, health care, and sanitation have reduced birth and death rates as well as improved life expectancies over time.

(B) North African declines in nutrition, health care, and sanitation have resulted in higher birth rates but have not affected death rates or life expectancies over time.

(C) North African investment in transportation and energy sectors has reduced birth and death rates as well as improved life expectancies over time.

(D) Foreign investment in North Africa's transportation and energy sectors has resulted in higher birth rates but has not affected death rates or life expectancies over time.

(E) North African business losses in transportation and energy sectors have resulted in higher birth rates but have not affected death rates or life expectancies over time.

POPULATION AND HOUSEHOLD INCOME CHANGE 2000–2010 CITY OF DETROIT, DETROIT METROPOLITAN AREA, AND STATE OF MICHIGAN

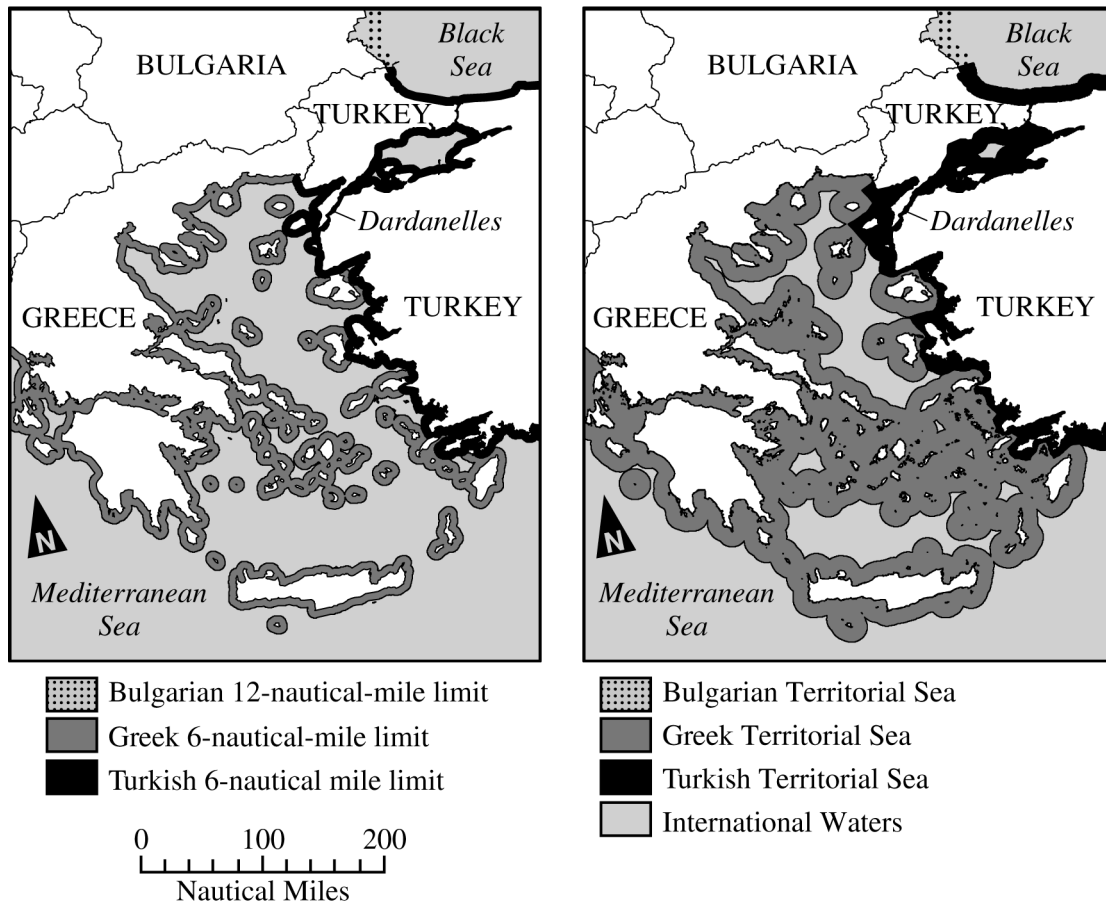| Scale	2000		2010	
	Population	Median Household Income	Population	Median Household Income
City of Detroit	713,777	$29,562	711,910	$25,787
Detroit metropolitan area	4,452,557	$60,500	4,296,250	$58,411
State of Michigan	9,938,444	$44,533	9,877,574	$45,413

Source: United States Census Bureau

24. Which of the following explains the degree to which deindustrialization and the rise of service economies have affected population and income across scales in Detroit and in the state of Michigan overall?

(A) Loss of manufacturing and related service-industry jobs and income has affected communities equally across the state.

(B) Loss of manufacturing and related service-industry jobs has affected the Detroit area, but there has been a small improvement in service-industry income growth in other parts of the state.

(C) Loss of manufacturing and related service-industry jobs has affected many communities across the state, but there has been some improvement in service-industry employment in the city of Detroit.

(D) Loss of manufacturing and related service-industry jobs has affected the Detroit metropolitan area, but the city of Detroit has experienced service-industry income growth.

(E) Loss of manufacturing and related service-industry jobs has affected the city of Detroit, but the Detroit metropolitan area has experienced service-industry income growth.

MAP 1: AEGEAN SEA WITH CURRENT 6-NAUTICAL-MILE TERRITORIAL LIMITS
MAP 2: AEGEAN SEA WITH POSSIBLE 12-NAUTICAL MILE TERRITORIAL SEAS

Map 1 legend:
- Bulgarian 12-nautical-mile limit
- Greek 6-nautical-mile limit
- Turkish 6-nautical mile limit

0   100   200
Nautical Miles

Map 2 legend:
- Bulgarian Territorial Sea
- Greek Territorial Sea
- Turkish Territorial Sea
- International Waters

In 1982 the United Nations Convention on the Law of the Sea (UNCLOS) established freedom-of-navigation rights and defined territorial waters as a 12-nautical-mile limit from the coast where individual states have political and economic sovereignty. However, Greece and Turkey still only claim a 6-nautical-mile territorial sea.
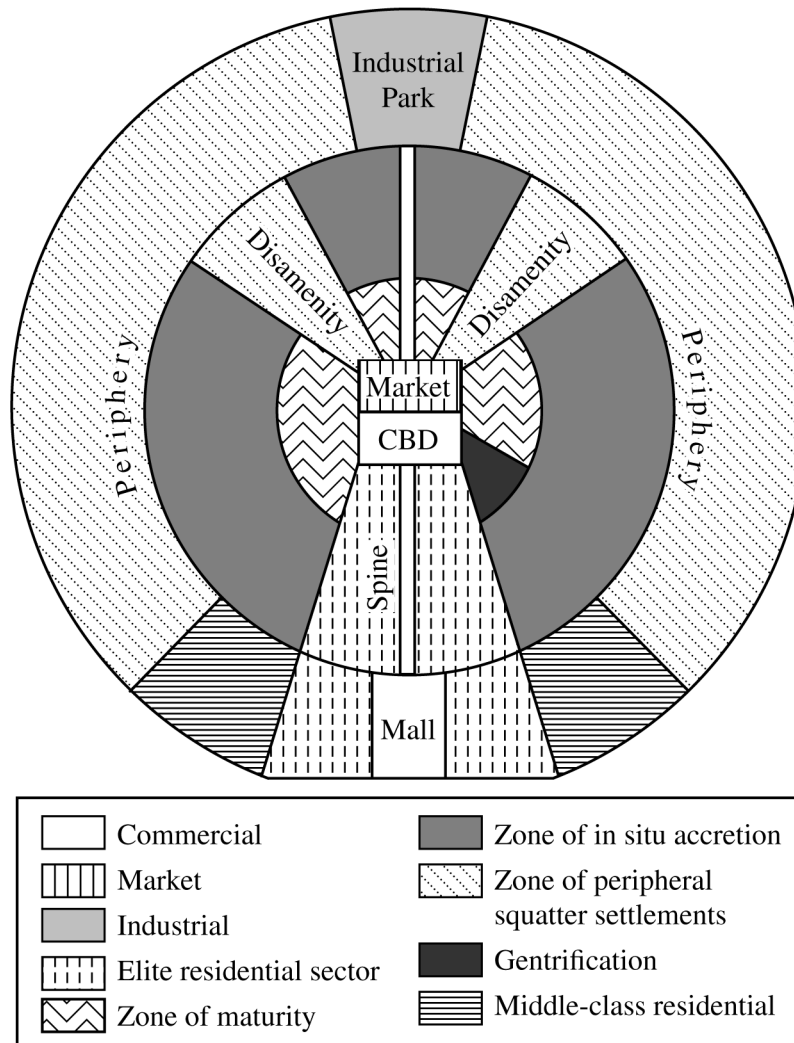
25. What do the maps indicate regarding the political geography of the Aegean Sea?

   (A) Turkey controls most of the islands in the Aegean Sea.
   (B) Greece controls most of the islands in the Aegean Sea.
   (C) Turkey and Greece share control of most of the islands in the Aegean Sea.
   (D) Turkey controls all access from the Dardanelles to the Mediterranean Sea.
   (E) Greece controls all access from the Aegean Sea to the Black Sea.

26. If Greece and Turkey adopted the UNCLOS system and expanded their territorial seas to 12 nautical miles, as shown in Map 2, which of the following scenarios best explains the resulting geographic pattern?

   (A) Greece would be required to guarantee the right of passage for ships transiting from the Dardanelles to the Mediterranean Sea.
   (B) International ships transiting from the Mediterranean Sea to the Black Sea would only be able to sail in Turkey's coastal waters.
   (C) Black Sea countries like Bulgaria would have to ship goods by land through Europe or Russia to participate in international trade.
   (D) Greece would only guarantee right of passage to ships from other European Union countries due to the open border policy.
   (E) Turkey would be forced to join the European Union in order to participate in international trade and benefit from the open border policy.

27. If Greece and Turkey adopted the UNCLOS system and expanded their territorial seas to 12 nautical miles, as shown in Map 2, which of the following would be true for a Turkish-owned oil tanker sailing into Greek territorial waters?

   (A) The ship and its cargo would be confiscated for violating a United Nations treaty.
   (B) The ship could be sunk by the Greek Navy for entering Greece's territorial waters.
   (C) The ship would be charged tolls for sailing through Greek canals and internal waterways.
   (D) The ship would be ordered by a Greek naval blockade to turn away as it is considered a threat.
   (E) The ship could be stopped by Greece's Coast Guard for safety and environmental inspections.

28. Since 2000, people in the largest category of international migrants seeking asylum in a different country are best described as

(A) families looking for employment opportunities

(B) women seeking higher-education opportunities

(C) individuals fleeing conditions of armed conflict

(D) youths seeking seasonal farm employment

(E) men seeking construction or energy-sector jobs

29. Which of the following best explains the degree to which the Human Development Index (HDI) accurately calculates a country's level of economic development?

(A) The HDI is a simplified means of comparing gross national income per capita in an indexed score that is on a 0 to 1.0 scale.

(B) The HDI is a simplified means of combining life expectancy and education levels in an indexed score that is on a 0 to 1.0 scale.

(C) Although the HDI factors in gross national income per capita, it also calculates indicators for health care and education to estimate the social aspects of development.

(D) Although the HDI factors in gross national income per capita, it also calculates the impact of exports and imports on the domestic economy.

(E) The HDI is a simplified means of ranking countries into distinct levels of development based on the total size of a country's national economy.

30. Which of the following occurs when the cities in a country follow the rank-size rule and the country has a primate city?

(A) There are two large cities with similar population sizes.

(B) The largest city is two times the population of the next-largest city.

(C) The largest city is three times the population of the next-largest city.

(D) The largest city is four times the population of the next-largest city.

(E) The largest city is five times the population of the next-largest city.

31. What is a common impact of urbanization regardless of a country's level of economic development?

(A) Urbanization means a loss of agricultural production due to the loss of farmland and farmworkers.

(B) Urbanization leads to a more egalitarian society as the difference between urban and rural lifestyles is reduced.

(C) Urbanization creates a larger cultural and economic gap between urban and rural areas.

(D) Urbanization creates a labor force with a diversity of job skills and compensation levels.

(E) Urbanization creates socially and economically diverse cities that have little social conflict.

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GRIFFIN-FORD MODEL OF THE LATIN AMERICAN CITY

Industrial Park

Disamenity

Disamenity

Periphery

Periphery

Market

CBD

Spine

Mall

Commercial

Market

Industrial

Elite residential sector

Zone of maturity

Zone of in situ accretion

Zone of peripheral squatter settlements

Gentrification

Middle-class residential

32. Which of the following best explains the strength of the diagram shown as a theoretical model in human geography?

(A) The model presents a general theory that is most applicable to metropolitan areas that were once colonial-era Spanish cities.

(B) The model presents a general theory that is applicable to metropolitan areas that were first settled in the era of postcolonial independence.

(C) The model presents a general theory that is most applicable to metropolitan areas that were once colonial-era Portuguese cities.

(D) The model presents a general theory that is most applicable to metropolitan areas with service-based urban economies.

(E) The model presents a general theory that is most applicable to metropolitan areas with technology-based urban economies.

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IMPERIAL VALLEY
ALONG THE UNITED STATES–MEXICO BORDER

Source: NASA

33. Which of the following best describes the data presented in the image?

  (A) Coordinates for a satellite navigation system
  (B) Political map of a region
  (C) Series of geographic information systems layers
  (D) Remote sensing satellite image of land use
  (E) Cartogram of quantitative spatial information

TABLE 1: MEDIAN HOUSEHOLD INCOME FOR SELECTED PLACES, 2018

Place	Median Household Income
United States	$57,652
New York State	$62,765
New York City metropolitan area	$75,368
City of New York	$57,782

TABLE 2: MEDIAN HOUSEHOLD INCOME, 2018
FIVE BOROUGHS OF NEW YORK CITY

Place	Median Household Income
Bronx	$36,593
Brooklyn	$52,782
Manhattan	$79,781
Queens	$62,008
Staten Island	$76,244

Source: United States Census Bureau

34. The data on median household income in Table 1 is presented in different

   (A) culture regions
   (B) physical regions
   (C) map scales
   (D) scales of analysis
   (E) vernacular regions

35. Table 1 shows that the United States and New York City have similar median household income values. Compare the data in Table 1 to the data in Table 2. Based on this comparison, which of the following statements is most accurate?

   (A) Each borough of New York City has a household income distribution similar to that of the United States.
   (B) Each borough of New York City has a household income distribution similar to that of New York State.
   (C) Each borough of New York City has a household income distribution similar to that of the New York City metropolitan area.
   (D) Each borough of New York City has a household income distribution similar to that of the City of New York.
   (E) A comparison of data from one scale to a different set of scales can result in a flawed analysis.

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36. Using the data in Table 2, which of the following terms best describes the median household income distribution among the five boroughs?

   (A) Uneven development
   (B) Gender inequality
   (C) Informal economies
   (D) Comparative advantage
   (E) Economies of scale

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37. Which of the following best describes the difference in urban transportation issues faced by cities in different parts of the world?

   (A) Extreme traffic congestion during rush hour is a largely North American issue due to high levels of automobile ownership.
   (B) High rates of ridership on public transit in western Europe and Japan reflect lower income levels compared to the United States.
   (C) Most less developed countries continue to avoid urban transportation issues, but government planners fear development will bring transportation problems.
   (D) The relatively low population density of North American cities encourages automobile use, sprawl, and traffic congestion.
   (E) Many cities around the world are successfully fighting traffic congestion by building more limited-access expressways.

38. Which of the following statements explains the characteristics of cities in a postindustrial economy?

   (A) The postindustrial city has new structures since the buildings of the industrial city cannot be reused.
   (B) The postindustrial city has a large share of offices housing technology and information services.
   (C) The postindustrial city has very few companies in the manufacturing sector.
   (D) The postindustrial city is a high-density, compact city to facilitate information and technology businesses.
   (E) The postindustrial city has few low-skill or general service jobs because of the demands of technology industries.

39. Which of the following terms best describes the food preferences, architecture, and land-use practices found in a particular region?

   (A) Cultural relativism
   (B) Ethnocentrism
   (C) Culture traits
   (D) Unitary state
   (E) Culture hearth

40. Which of the following describes a feature of the original central business district (CBD) found in most cities?

   (A) Manufacturing space is located in the middle of the original CBD.
   (B) Residential space is generally not permitted in the original CBD.
   (C) Retail space is generally not permitted in the original CBD.
   (D) Land values are the highest of any zone in the metropolitan area.
   (E) Land values are the lowest of any zone in the metropolitan area.

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41. Which of the following is a likely outcome of gerrymandering?
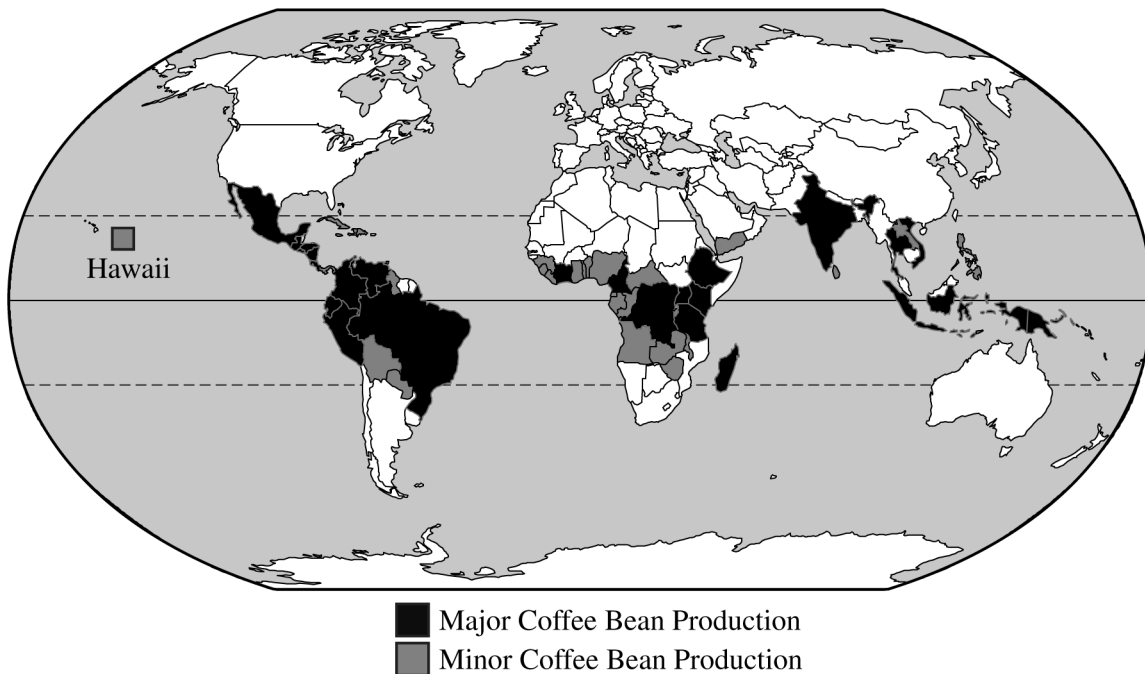
(A) Splitting areas of majority group voters across a number of legislative representatives' districts

(B) Packing areas of minority group voters into a single legislative representative's district

(C) Disrupting electronic polling machines or the data networks run by elections officials

(D) Placing a legislative representative's districts in a row pattern while drawing a new electoral map

(E) Supporting political party candidates with campaign funds intended to be used in particular geographic areas

42. In 2017 the Ivory Coast exported $5.6 billion worth of cocoa beans and cocoa-derived products, such as cocoa butter. This represented 55 percent of the country's exports and was worth four times the country's combined gold and oil exports in that year. Which of the following best explains the international trade economy of the Ivory Coast?

(A) High level of dependency on a single agricultural commodity that increases national economic development and increases foreign direct investment

(B) High level of dependency on a single agricultural commodity that increases national economic risks during times of global economic crisis

(C) Low level of dependency on primary-sector production and resource processing that will increase the country's level of development

(D) Low level of dependency on a single agricultural commodity that decreases national economic risks during times of global economic crisis

(E) Low level of dependency on a single agricultural commodity that increases national economic development and increases foreign direct investment

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Major Coffee Bean Production
Minor Coffee Bean Production

Source: International Coffee Organization

With the exception of Hawaii, the map shows the pattern of production for coffee beans by country.

43. Which of the following best describes the pattern of coffee bean production at the global scale?

(A) A core and periphery

(B) A hierarchical diffusion

(C) Within tropical latitudes

(D) Inside arid climate regions

(E) In more developed countries

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44. Which of the following explains the limitations of the map shown for identifying the agricultural production regions of coffee beans?

(A) The map does not identify whether the country is a major exporter of coffee beans or whether the country consumes much of what it grows.

(B) The map is thematic, identifying countries by type, instead of a choropleth map that classifies countries by the amount produced.

(C) The map uses the descriptors "major" and "minor" and should instead use the amount of coffee beans produced per capita of the country's total population.

(D) The map mainly identifies all land within a country, as opposed to the foothills and upland areas where coffee beans are grown.

(E) The map shows only coffee produced for the formal economy and does not account for informal or illegal production of coffee beans.

45. If the map was reproduced at the subnational state or provincial scale, as Hawaii is on the map, what changes in pattern would be expected in other parts of the world?

(A) The inland provinces of African countries would not show any production.

(B) Southeast Asian islands would not show any production.

(C) The states in northern Mexico and northern India would not show any production.

(D) The Amazon Basin and Congo Basin would show concentrated areas of production.

(E) Provinces in southern China would show concentrated areas of production.

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46. Which of the following agricultural inputs were the most recent technological innovations employed in less developed countries during the Green Revolution?

(A) Metal plows and harvesting equipment
(B) Irrigated farm fields
(C) Seed hybrids and animal breeds
(D) Chemical fertilizers and pesticides
(E) Terracing in highland terrain

47. Which of the following describes the process of creolization?

(A) The mix of Native American, African, and European influences to create new cultural forms
(B) The representations of Spanish, Portuguese, and French linguistic culture on the landscape of Latin America
(C) The layering of the European cultural landscape over the Native American landscape
(D) The exchange of crops and animals between the Old World and the New World
(E) The adoption of Native American toponyms for place-names of European settlements

48. In the fundamentals of central place theory, which of the following terms is defined as the maximum distance a consumer will travel to acquire a good or service?

(A) Distance decay
(B) Threshold
(C) Cost-to-distance ratio
(D) Relative location
(E) Range

49. Cultural differences within a country's population, such as different religions, languages, and ethnicities, have political impacts and can best be described as

(A) centripetal forces within a state
(B) centrifugal forces within a state
(C) the effects of diffusion on the state
(D) the effects of imperialism on the state
(E) globalizing forces within a state

Questions 50 - 52 refer to the images below.

TEMPLE AND STATUE OF SHIVA, MURDESHWAR, INDIA

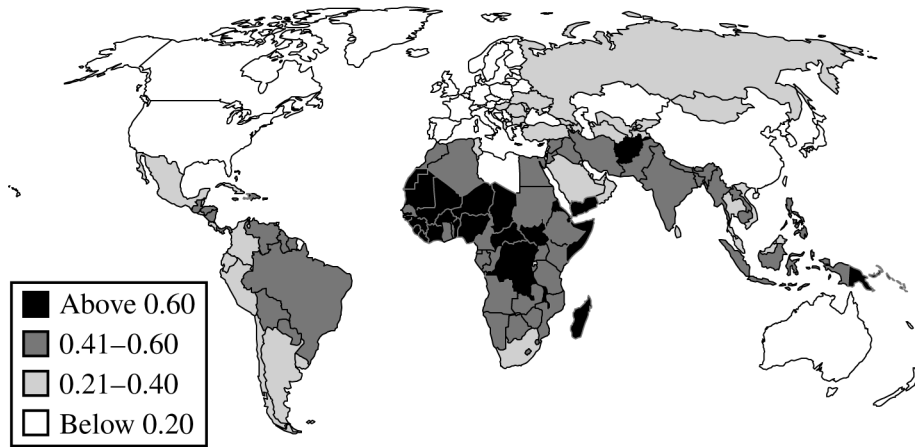# TEMPLE AND STATUE OF BUDDHA, KRABI, THAILAND

Source: Pixabay.com

50. Comparing both photographs, each image shows the significance of temples, religious statuary, and iconography on the

   (A) cultural hearth
   (B) ethnic culture
   (C) traditional toponyms
   (D) cultural landscape
   (E) colonial architecture

51. The temples shown in the images, combined with the surrounding scenic physical landscape, have become centers of pilgrimage and tourism. These factors combine to result in enhanced religious expression and local

   (A) placemaking
   (B) spatial analysis
   (C) suburbanization
   (D) technological change
   (E) multiculturalism

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52. Hinduism and Buddhism have their origins in South Asia. Much of Hinduism's population is concentrated in South Asia, whereas much of Buddhism's population has diffused to other parts of Asia. Which of the following best explains this difference in the cultural diffusion of Hinduism and Buddhism?

(A) Hinduism is a polytheistic religion concentrated in the region near its cultural hearth, and Buddhism is a monotheistic religion that has spread to regions where the religion has been adopted.

(B) Hinduism is a monotheistic religion concentrated in the region near its cultural hearth, and Buddhism is a polytheistic religion that has spread to regions where the religion has been adopted.

(C) Hinduism is a polytheistic religion concentrated in the region near its cultural hearth, and Buddhism is an ethnic religion that has spread to regions where the religion has been adopted.

(D) Hinduism is a universalizing religion concentrated in the region near its cultural hearth, and Buddhism is an ethnic religion that has spread to regions where the religion has been adopted.

(E) Hinduism is an ethnic religion concentrated in the region near its cultural hearth, and Buddhism is a universalizing religion that has spread to regions where the religion has been adopted.

GENDER INEQUALITY INDEX SCORES, 2017

Above 0.60
0.41–0.60
0.21–0.40
Below 0.20

Source: United Nations Development Programme

53. The global pattern of gender inequality index scores is similar to the expected pattern of countries by level of economic development, with the exception of a few countries such as

(A) South Africa, Australia, and New Zealand

(B) Japan, Spain, and Canada

(C) Venezuela, Syria, and Iraq

(D) Brazil, Libya, and China

(E) Mexico, Argentina, and India

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54. Which of the following terms best describes the political entity of the Republic of Ireland?

(A) Stateless nation
(B) Multinational state
(C) Nation-state
(D) Autonomous region
(E) Dependent territory

55. Although photovoltaic solar farms appear to be a free resource with few negative impacts, there are environmental problems related to this type of renewable energy production. Which statement explains the limits to the sustainability of solar panel farms to produce electricity for a city in a more developed country?

(A) Buildings supporting solar photovoltaic panels are not suitable for housing.
(B) Nearby residents complain of changed air circulation patterns and low-frequency noise.
(C) Migratory birds flying near the solar panels can be injured.
(D) Operating costs are high and it is difficult to transmit solar power through the electrical grid.
(E) Large amounts of land, permanently cleared of natural vegetation are needed.

56. Since 2000 the global pattern of international migration has resulted in most migrants seeking destinations that are best described as

(A) rural agricultural regions
(B) urban and suburban areas
(C) less developed countries
(D) protected environmental zones
(E) tourism and pilgrimage sites

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MEASURES OF DEVELOPMENT FOR SELECTED COUNTRIES

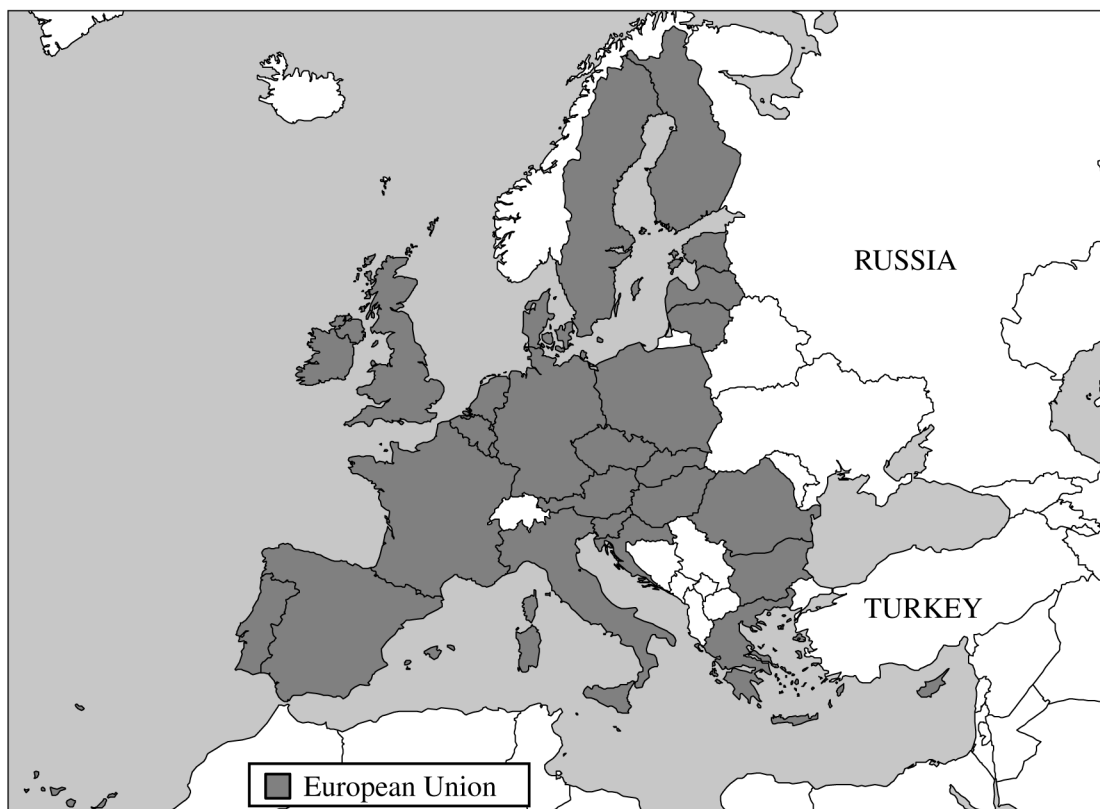| Country	Human Development Index Score	Gross National Income per Capita
Brazil	0.759	$13,755
Canada	0.926	$43,433
France	0.901	$39,254
India	0.640	$6,535
Tanzania	0.538	$2,655

Source: United Nations Development Programme

57. Which of the following correctly classifies the countries in the table by their level of development?

    (A) More developed: Canada; industrializing: France; less developed: Brazil
    (B) More developed: Brazil; industrializing: India; less developed: Tanzania
    (C) More developed: France; industrializing: Canada; less developed: India
    (D) More developed: Canada; industrializing: Tanzania; less developed: Brazil
    (E) More developed: France; industrializing: India; less developed: Tanzania

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EUROPEAN UNION 2018

RUSSIA

TURKEY

European Union

COUNTRIES OF THE FORMER YUGOSLAVIA

Source: Natural Earth GIS

58. Which of the following best identifies the scale of analysis for each of the maps shown?

    (A) Global and regional
    (B) Regional and urban
    (C) Continental and country
    (D) Global and local
    (E) Country and local

59. Examining the countries shown in white on the map of the former Yugoslavia, which of the following explains why the area would be referred to as a shatterbelt region?

    (A) The countries comprise a strategically positioned area and have unstable national governments.
    (B) The countries have an open-border policy and have abolished all passport and customs controls along their shared political boundaries.
    (C) The countries comprise a multiethnic culture region and have strong federal governments.
    (D) The countries are outside of the European Union but are inside of the European continent.
    (E) The countries are former communist states and remain allied with the Russia.

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60. Which of the following explains why Bosnia and Herzegovina would want to join the European Union (EU)?

(A) To increase the chances of joining NATO and protection against Russian invasion

(B) To benefit from the EU single currency and open borders that exist between their country's neighboring states

(C) To benefit from the EU single currency and eliminate the cost of currency exchange with the United Kingdom, Denmark, and Sweden

(D) To participate in the EU free trade zone and automatically receive the protection of NATO

(E) To benefit from the EU free trade zone and achieve economic and social stability