International Geography Championships

Theoretical and Applied Geography Examination
High School and Middle School Division

Instructions – Mark your answers on the scantron provided. Correct answers are worth 2 points. Incorrect answers are worth –1 point. Questions left blank are worth 0 points. Write the answer to your tiebreaker question in the box at the top of your scantron.

Questions 1-10 are based on the image in Section 1 on the resource page.

1. Which island in this diagram has the greatest number of different species?
   A. Island A, because it is large and close to the mainland
   B. Island B, because it is small and close to the mainland
   C. Island C, because it is large and far from the mainland
   D. Island D, because it is small and far from the mainland

2. Which island in this diagram has the fewest different species?
   A. Island A
   B. Island B
   C. Island C
   D. Island D

3. Based on the diagram, what effect does an island's SIZE have on the number of species living there?
   A. Larger islands have fewer species because they are farther from the mainland
   B. Larger islands have more species because they provide more habitat and resources
   C. Island size has no effect on the number of species
   D. Smaller islands have more species because animals are packed more closely together

4. Based on the diagram, what effect does an island's DISTANCE from the mainland have on the number of species living there?
   A. Islands farther from the mainland tend more species because there is less competition
   B. Distance has no effect because species can swim or fly any distance necessary
   C. Islands closer to the mainland have more species because it is easier for animals and plants to get there
   D. Islands farther from the mainland have more species because they have more rainfall

5. Which TWO islands would you compare if you wanted to study ONLY the effect of island size while keeping distance from the mainland the same?
   A. Islands A and C, because both are large
   B. Islands A and B, because both are 12 km from the mainland
   C. Islands B and C, because one is small and one is large
   D. Islands C and D, because both are far from the mainland

6. Which TWO islands would you compare if you wanted to study ONLY the effect of distance from the mainland while keeping island size the same?
   A. Islands A and B, because both are close to the mainland
   B. Islands B and D, because both are small
   C. Islands A and C, because both are large
   D. Islands C and D, because both are far from the mainland

7. Why does the mainland in this diagram have many more species than any of the four islands?
   A. The mainland is surrounded by water, which helps species survive
   B. The mainland is always warmer than islands
   C. Species on the mainland do not compete with each other
   D. The mainland is much larger and connected to other land, providing far more habitat than the islands

8. If a volcanic eruption wiped out all species on Island A, which island would MOST likely be recolonized by new species the fastest?
   A. Island A itself, because it is large and close to the mainland
   B. Island B, because it is small and easier to fill with species
   C. Island C, because it is large and has room for many species
   D. Island D, because it is the farthest away and undisturbed

9. Which statement based on the diagram best supports the prediction that Island C will always have fewer species than Island A?

A. Island C is smaller than Island A and closer to the mainland
B. Island C is the same size as Island A but 30 km from the mainland instead of 12 km
C. Island C has more species than Island A because it is larger
D. Island C is smaller than Island A and farther from the mainland

10. Based on what this diagram shows about island size and distance, which of the following islands would you predict to have the MOST species?

A. A small island that is very close to a large continent
B. A large island that is very far from any continent
C. A large island that is close to a large continent
D. A small island that is very far from any continent

Questions 11-20 are based on the image in Section 2 of the resource page.

11. What type of map projection is shown in this image, recognizable by its rectangular grid of straight lines?

A. A Mercator projection
B. A Robinson projection
C. A polar projection
D. A Goode's homolosine projection

12. What does the solid red horizontal line running across the middle of this map represent?

A. The Prime Meridian
B. The International Date Line
C. The equator
D. The Tropic of Cancer

13. Comparing Greenland and Africa on this map, which statement is most accurate about their true sizes on Earth?

A. Greenland and Africa are approximately the same size in reality
B. Greenland is about twice as large as Africa in real life
C. Africa is about twice as large as Greenland in real life
D. Africa is actually about fourteen times larger than Greenland in real life

14. Why does Greenland appear the way it does on this map projection?

A. This projection stretches landmasses near the poles because of how it is constructed
B. Greenland's ice sheets make it look bigger than the land underneath
C. Mapmakers intentionally enlarge Greenland because it is mostly uninhabited
D. Greenland's true shape and size genuinely match what is shown on this map

15. What happens to the continent of Antarctica at the very bottom of this map?

A. Antarctica is completely missing from the map
B. Antarctica is shown at its correct, true size
C. Antarctica is stretched into an enormous band across the entire width of the map
D. Antarctica is shown much smaller than its true size

16. Based on what you can observe about Greenland and Antarctica, which general rule about this projection is best supported by this map?

A. Landmasses near the equator are distorted more than landmasses near the poles
B. Landmasses near the poles are distorted and enlarged more than landmasses near the equator
C. All landmasses on this map are shown at exactly their true size
D. Only landmasses in the Southern Hemisphere are distorted by this projection

17. Why might sailors and ship navigators have historically found the this projection useful, despite its size distortions?

A. It keeps compass directions as straight lines, making it easier to plot a steady course
B. It shows the true size of every continent, which helps with trade route planning
C. It is the only projection that includes the North and South Poles
D. It shows ocean currents directly on the map

18. Which dashed line on this map marks the southernmost latitude where the sun can appear directly overhead at noon?

A. The Arctic Circle
B. The equator
C. The Tropic of Cancer
D. The Tropic of Capricorn

19. If a student used only this map to compare the sizes of countries near the poles to countries near the equator, what mistake might they make?

A. They would correctly judge all countries to be their true relative size
B. They would likely underestimate the size of countries near the poles compared to countries near the equator
C. They would likely overestimate the size of countries near the poles compared to countries near the equator
D. They would have no way to compare any countries using this map

20. Why is it important for mapmakers and students to understand the distortions of this map projection rather than simply accept the map at face value?

A. Because this projection is no longer used for any purpose today
B. Because misunderstanding map distortion can lead to inaccurate ideas about the true sizes and importance of different regions of the world
C. Because this type of map is the only one we can use to display the globe in two dimensions
D. Because all map projections show the exact same amount of distortion

Questions 21-30 are based on the images in Section 3 on the resource page. These images show the southeastern part of the state of Louisiana with the city of New Orleans near the center of both images.

21. What natural body of water is visible to the north in both satellite images?

A. Lake Pontchartrain
B. Gulf of Mexico
C. Atlantic Ocean
D. Lake Superior

22. Why do hurricanes that form over the Gulf of Mexico often grow stronger before reaching the Louisiana coast?

A. Cooler land temperatures near the coast add energy to the storm
B. Hurricanes always weaken over water and only strengthen over land
C. Mountains near the Gulf coast push more air into the storm
D. Warm ocean water provides energy that fuels the hurricane's winds

23. Comparing the two images, what change can you observe in the green wetland areas near the coast?

A. The wetlands appear completely unchanged between the two images
B. New green wetland areas have appeared where there was open water before
C. Some green wetland areas appear darker or smaller, suggesting flooding or erosion
D. The wetlands have turned into solid land with no water at all

24. What important natural function do coastal wetlands like the ones shown in these images serve during a hurricane?

A. They act as a buffer that absorbs storm surge and reduces flooding farther inland
B. They create stronger winds that push hurricanes away from the coast
C. They have no effect on hurricanes or flooding
D. They increase the speed of a hurricane's winds before landfall

25. Why are low-lying coastal cities in southeastern Louisiana, such as New Orleans, especially vulnerable to hurricane flooding?

A. They sit at a higher elevation than the surrounding water, so flooding drains away quickly
B. Much of the land sits at or below sea level, so water has nowhere to drain during a storm
C. They are located far from any ocean or gulf waters
D. They receive no rainfall during hurricanes, only strong winds

26. What is the purpose of the levee systems built along the Mississippi River and around cities like New Orleans?

A. To hold back river water and storm surge and protect low-lying land from flooding
B. To increase the amount of flooding during storms
C. To generate electricity for nearby cities
D. To speed up the flow of hurricanes toward the coast

27. Based on the curving path of the river through the city visible in both images, what landform feature has the river created over time?

A. A river delta with multiple straight channels
B. A waterfall caused by a sudden drop in elevation
C. A meander, formed as the river moves back and forth across flat land
D. A canyon carved through solid rock

28. Which of the following is a hazard mitigation strategy that coastal Louisiana communities use to reduce future hurricane damage, besides building levees?

A. Removing all wetlands to make room for new buildings
B. Restoring marshes and wetlands to rebuild natural storm buffers
C. Building cities at lower elevations to reduce wind speeds
D. Preventing any hurricane warnings from being issued to residents

29. Why might it take longer for floodwaters to drain out of New Orleans after a hurricane compared to a city built on higher ground?

A. New Orleans has no pumps or drainage systems at all
B. Floodwater in New Orleans evaporates instead of draining
C. New Orleans receives less rainfall than other coastal cities
D. Because much of the city is below sea level, water must be pumped out rather than draining naturally downhill

30. If a city government wanted to reduce future hurricane damage based on what these images show about the landscape, which combination of strategies would likely be most effective?

A. Draining all wetlands and building directly along the open coastline
B. Removing levees so that floodwater can spread out naturally across the city
C. Restoring coastal wetlands, maintaining levees, and improving pumping systems
D. Relying only on hurricane warnings with no physical flood protection

Questions 31-40 are based on the image in Section 4 on the resource page.

31. What does the small red dot at the center of both circles in this diagram represent?

A. A mountain peak
B. The central market or city where farmers sell their goods
C. A national border
D. A weather station

32. What is the main idea behind the pattern of rings shown around the center in this diagram?

A. Land is used differently depending on its distance from the central market
B. All farmland produces exactly the same crop regardless of location
C. Land use is determined only by soil color, not distance
D. Rings of land use are placed randomly with no organizing pattern

33. In the left circle, why do the rings of land use form a perfect circular pattern around the market?

A. Because this imaginary place has no rivers, roads, or other transportation routes to change the pattern
B. Because farmers in this model are required to plant crops in circles
C. Because the land in this model is covered entirely by water
D. Because mountains surround the market on all sides

34. What new geographic feature appears in the right circle that was not present in the left circle?

A. A mountain range
B. A coastline
C. A river running through the market
D. A desert region

35. Based on the right circle, what effect does the river have on the shape of the land-use rings?

A. The river has no effect, and the rings remain perfectly circular
B. The rings disappear completely near the river
C. The rings shrink to half their original size near the river
D. The rings stretch farther outward along the path of the river

36. Why would land along a navigable river extend a land-use zone farther from the market than land without a river?

A. Rivers make it more expensive to transport goods to market
B. Rivers prevent any farming from taking place nearby
C. Rivers have no effect on the cost of transporting goods
D. Rivers provide a cheaper and faster way to transport goods to market than over land

37. According to this model, what general rule determines which type of land use is found closest to the central market?

A. Land uses that produce perishable goods or are costly to transport are placed closest to the market
B. Land uses that are cheapest to transport are placed closest to the market
C. Land use has no relationship to distance from the market in this model
D. The most profitable land use is always placed farthest from the market

38. Looking at the scale bar at the bottom of the diagram, approximately how many miles does the outermost ring extend from the central market in the left circle?

A. About 10 miles
B. About 50 miles
C. About 100 miles
D. About 200 miles

39. If a real city had a major highway extending out from it in one direction instead of a river, what would you predict the land-use pattern would look like?

A. The rings would remain perfectly circular, since highways have no effect on land use
B. All farming activity would stop completely near the highway
C. The rings would stretch outward along the highway, similar to how they stretch along the river
D. The market would move to a new location away from the highway

40. What is the most important lesson this diagram teaches about how transportation affects the use of land around a city?

A. Transportation routes have no real effect on how land is used
B. Access to cheaper transportation, such as a river, allows land-use zones to extend farther from the market in that direction
C. Land use is determined only by climate and has nothing to do with transportation
D. Rivers always reduce the total amount of farmland available near a city

Questions 41-50 are based on the following passage.

The months of May and June typically mark the onset of cooler temperatures and increasingly winter-like weather in Lima, Peru, a Southern Hemisphere city home to more than 10 million people.

But things have been different this year.

Instead of cooling off, it's getting warmer. People have flocked to the beach amid summer-like 80-degree warmth — and waded into ocean waters that have recently risen almost 10 degrees Fahrenheit above average. In Paita, Peru, north of Lima, waters have risen a remarkable 14.2 degrees Fahrenheit above average.

That's because a wave of record-breaking undersea warmth has traversed the depths of the Pacific over the past two months and is now arriving along the country's shores. The wave is associated with a developing El Niño, which according to latest modeling could become the strongest one on record.

- The Washington Post, 8-June 2026

41. According to the passage, what season would May and June normally mark the beginning of in Lima, Peru?

A. Spring
B. Summer
C. Cooler, winter-like weather
D. The rainy monsoon season

42. Why does Lima experience winter-like weather in May and June rather than in November and December?

A. Lima is located exactly on the equator, where seasons do not change
B. Lima is in the Southern Hemisphere, where the seasons are opposite those of the Northern Hemisphere
C. Lima's weather is controlled entirely by ocean currents and has no connection to the seasons
D. Peru's government has changed its calendar to match Northern Hemisphere seasons

43. According to the passage, approximately how far above average have ocean waters risen near Lima this year?

A. Almost 2 degrees Fahrenheit
B. Almost 5 degrees Fahrenheit
C. Almost 10 degrees Fahrenheit
D. Almost 20 degrees Fahrenheit

44. According to the passage, how does the ocean temperature rise in Paita compare to the rise near Lima?

A. Paita's waters have risen less than Lima's waters
B. Paita's waters have risen by exactly the same amount as Lima's waters
C. Paita's waters have risen even more than Lima's waters, by 14.2 degrees Fahrenheit
D. Paita has not experienced any rise in ocean temperature at all

45. According to the passage, what weather pattern is most directly associated with the unusual ocean warmth described?

A. A developing El Niño
B. A hurricane forming in the Pacific
C. A polar vortex moving south from Antarctica
D. A monsoon shifting away from South America

46. Based on the passage, what does the term 'El Niño' refer to?

A. A type of permanent ocean current that never changes in strength
B. A seasonal storm that occurs every year at the same time with the same intensity
C. A man-made weather event caused by ocean pollution
D. A periodic climate pattern linked to unusually warm ocean temperatures in the Pacific

47. According to the passage, how did unusually warm conditions affect the behavior of people in Lima?

A. People avoided the beaches due to dangerous water temperatures
B. People flocked to the beach and waded into the unusually warm ocean water
C. People evacuated the city due to flooding
D. People reported no noticeable change in their daily routines

48. Why might a strong El Niño event create significant economic or environmental challenges for coastal communities in Peru?

A. Because El Niño has no measurable effect on fish populations or local industries
B. Because El Niño only affects countries located in the Northern Hemisphere
C. Because El Niño causes permanent and irreversible changes to a country's hemisphere
D. Because warmer ocean waters can disrupt fish populations that coastal economies and food supplies depend on

49. Based on the passage, which of the following would be a reasonable hazard mitigation step for a coastal city anticipating a record-strength El Niño?

A. Preparing emergency plans for flooding, unusual storms, and disruptions to fishing industries before the event peaks
B. Ignoring ocean temperature monitoring since El Niño events cannot be predicted in advance
C. Permanently relocating the entire population away from the coastline regardless of the storm's actual strength
D. Waiting until after the El Niño has ended to begin any form of planning or response

50. Why is it significant that the passage describes this El Niño as one that 'could become the strongest one on record'?

A. It suggests this event might be comparable to or worse than any previously measured El Niño, raising concern about more extreme impacts
B. It means this El Niño will have no effect on ocean temperatures at all
C. It indicates that El Niño events are becoming less frequent over time
D. It proves that El Niño events will no longer occur in the future

Questions 51-60 are based on the following passage.

The idea of moving Indonesia’s capital away from Jakarta has existed since the first days of Indonesia’s independence.

The primary driver for this move is the potentially irretrievable impact of land subsidence in Jakarta, caused by rapid urbanisation and excessive groundwater extraction. Jakarta is one of the fastest sinking cities in the world. Many commercial and residential areas, especially in the north of the city, have already been destroyed due to flooding which has also been exacerbated by climate change. Some areas are sinking by as much as 25cm per year and estimates suggest large swathes of the city could be fully submerged by 2050.

- excerpt from Oxford Economics, 15-August 2024

51. According to the passage, what is the primary reason Indonesia is considering moving its capital away from Jakarta?

A. Jakarta has too small a population to remain the capital
B. Land subsidence in Jakarta threatens to make large parts of the city uninhabitable
C. Jakarta lacks any economic importance to Indonesia
D. A new capital is required by an international treaty

52. What does the term 'land subsidence' mean, based on how it is used in this passage?

A. The sinking or settling of the ground's surface to a lower elevation
B. The rising of land due to volcanic activity
C. The erosion of a coastline by ocean waves
D. The shifting of tectonic plates beneath a city

53. According to the passage, what human activity is identified as a major cause of Jakarta's land subsidence?

A. Excessive groundwater extraction
B. Heavy industrial mining beneath the city
C. The construction of large dams along nearby rivers
D. Deforestation in the mountains surrounding Jakarta

54. Which of these best explains why the human activity mentioned in the passage causes land subsidence?

A. It causes underground soil and rock layers to compact and settle
B. It has no physical effect on the soil or rock above it
C. It causes the ground to expand and rise instead of sinking
D. It only affects coastal areas, never inland cities

55. According to the passage, which part of Jakarta has already experienced significant destruction of commercial and residential areas due to flooding?

A. The southern part of the city
B. The eastern part of the city
C. The central part of the city
D. The northern part of the city

56. Based on the passage, how does climate change make Jakarta's flooding problem worse?

A. Climate change has no connection to flooding in coastal cities
B. Climate change is described in the passage as exacerbating the flooding already caused by subsidence
C. Climate change has reduced the amount of rainfall Jakarta receives
D. Climate change has caused Jakarta's groundwater extraction to stop completely

57. According to the passage, by approximately what year could large areas of Jakarta be fully submerged?

A. 2030
B. 2040
C. 2050
D. 2100

58. Why might relocating a national capital to a new location be considered a form of hazard mitigation?

A. Because it removes government functions and population from an area at high risk of severe flooding
B. Because it guarantees that the original city will immediately stop sinking
C. Because it eliminates the need for any flood-control infrastructure anywhere in the country
D. Because moving a capital city always increases a country's total land area

59. Besides relocating the capital, which of the following strategies might help reduce the rate of land subsidence in a city like Jakarta?

A. Increasing the amount of groundwater pumped out from beneath the city
B. Building taller skyscrapers to add more weight to the affected areas
C. Reducing groundwater extraction and expanding access to piped water from surface sources
D. Removing all sea walls and coastal flood barriers currently in place

60. Considering both land subsidence and rising seas linked to climate change, why might Jakarta's flooding risk be especially difficult to solve with infrastructure like sea walls alone?

A. Because sea walls work perfectly regardless of how much the land beneath a city continues to sink
B. Because the ground beneath the city continues sinking, so flood barriers built to a fixed height can become insufficient over time
C. Because Jakarta does not actually border any ocean or sea
D. Because sea walls cause land subsidence to occur more rapidly

Questions 61-70 are based on the image in Section 7 on the resource page.

61. According to the map's note, how are international aviation emissions assigned to a country?

A. By the country where the airplane was manufactured
B. By the country where the airline company is headquartered
C. By the country where the flight eventually lands
D. By the country of departure for each flight

62. Based on the color scale shown on this map, which color represents the highest level of CO_2 emissions from international aviation?

A. The lightest shade of blue
B. White with no shading
C. The darkest shade of blue
D. The diagonal hatched pattern

63. What does the diagonally hatched pattern on certain countries, such as Greenland, indicate on this map?

A. Those countries have the highest emissions in the world
B. Those countries have zero emissions from international aviation
C. No data is available for those countries
D. Those countries have banned international flights

64. Based on the map, which country appears to have the highest international aviation CO_2 emissions?

A. Brazil
B. The US
C. Egypt
D. Indonesia

65. Based on the general pattern shown across the map, which of the following best describes the regions with the lowest international aviation emissions?

A. Much of Africa and parts of Central Asia
B. Most of Western Europe and North America
C. Australia and Southeast Asia
D. East Asia and the Middle East

66. Which of the following economic factors most likely helps explain why wealthier countries tend to show darker shading on this map?

A. Wealthier countries have stricter laws that increase emissions per flight
B. Citizens in wealthier countries are required by law to fly more frequently
C. Wealthier countries generally have more residents and businesses that can afford frequent international air travel
D. Wealthier countries have smaller populations, so each flight counts for more emissions

67. Why might a small country with a major international airline hub, such as the United Arab Emirates, show relatively high aviation emissions despite having a small population?

A. Because emissions are divided equally among all countries regardless of flight activity
B. Because many international flights may depart from its airports even if passengers are just connecting through and don’t live in the country
C. Because small countries are automatically placed in the highest emissions category
D. Because the country's small size physically traps more carbon dioxide in the atmosphere

68. Based on this map, which of the following strategies would most directly reduce a country's international aviation emissions?

A. Increasing the number of international flights departing from the country
B. Building more airports within the country
C. Encouraging more connecting flights to depart from its hub airports
D. Reducing the number of international flights departing from the country or making those flights more fuel-efficient

69. Why might allocating aviation emissions to the country of departure be considered an incomplete way to measure responsibility for those emissions?

A. Because it ignores that passengers from many different countries may be on the same flight and share responsibility for the trip
B. Because departure-based allocation always credits emissions to the destination country instead
C. Because airplanes do not actually produce any carbon dioxide during flight
D. Because this method counts every country's emissions as exactly equal

70. Considering both economic geography and climate change, why might international aviation emissions be a particularly difficult global issue to regulate compared to emissions produced entirely within one country's borders?

A. Because airplanes never cross international borders, making regulation simple
B. Because international flights cross multiple countries' airspace and involve travelers and economic interests from more than one nation, making coordinated agreement difficult
C. Because international aviation produces no measurable carbon dioxide emissions
D. Because every country already uses identical rules for measuring and limiting aviation emissions

Questions 71-80 are based on the image in Section 8 on the resource page.

71. What body of water is shown in both panels of this image, located between Iran and Oman?

A. The Strait of Hormuz
B. The Suez Canal
C. The Strait of Gibraltar
D. The Bosporus Strait

72. What do the bright lines crossing the water in both panels of this image most likely represent?

A. Ocean currents measured by satellite
B. The paths traveled by commercial ships
C. Underwater oil and gas pipelines
D. International maritime borders

73. Based on the left panel, where did most ships travel before the period of conflict described in the image?

A. In a tight, concentrated path close to the Omani coastline
B. Spread evenly and widely across the entire strait
C. Directly along the Iranian coastline
D. Only through the small island in the middle of the strait

74. Based on the right panel, how did ship routes change after Iranian retaliation began?

A. Ships stopped traveling through the strait completely
B. Ship routes became more tightly clustered along the same single path
C. Ship routes spread out into wider, looping paths closer to the Iranian coast
D. Ships tried to stay as close to the Omani side of the strait as possible

75. Why is the Strait of Hormuz considered one of the most important waterways for international trade and commerce?

A. It is the only waterway connecting Europe to North America
B. A large share of the world's oil shipments must pass through this narrow strait to reach the open ocean
C. It is the deepest body of water in the world
D. It connects the Mediterranean Sea directly to the Indian Ocean

76. What term describes a narrow passageway, like the Strait of Hormuz, through which a large share of global trade must pass?

A. A delta
B. A peninsula
C. An archipelago
D. A chokepoint

77. Based on the change in shipping routes shown in this image, how might commercial ship captains respond to rising military tensions in a region they must sail through?

A. By traveling in larger groups along the exact same path as before
B. By adjusting their routes and navigation patterns in response to perceived risk
C. By refusing to communicate their location to anyone
D. By traveling at the same speed and path regardless of any conflict

78. Which of the following industries would most likely be directly affected by disruptions to shipping through the Strait of Hormuz?

A. Global oil and energy
B. Computers and software
C. Freshwater fishing
D. Space exploration

79. Why might a conflict between two countries bordering a major shipping strait create economic effects far beyond those two countries?

A. Because shipping straits are only used by ships from the two bordering countries
B. Because conflicts near shipping straits have no effect on international trade
C. Because all countries immediately stop trading when any conflict begins anywhere in the world
D. Because disruptions to global shipping routes can raise costs and create shortages for countries around the world that depend on that trade route

80. Based on everything shown in this image, what overall conclusion can be drawn about the relationship between political conflict and global trade routes?

A. Political conflict in a region has no measurable effect on how ships navigate through it
B. Shipping companies always reroute ships through land instead of water during a conflict
C. Political conflict can directly alter established global shipping patterns, even in critical international trade routes
D. Conflicts only affect shipping routes if they occur on a different continent

Questions 81-90 are based on the image in Section 9 on the resource page.

81. Which demographic model does this image depict, showing how birth rates, death rates, and population change as a country develops?

A. The Epidemiological Transition Model
B. The Demographic Transition Model
C. The Malthusian Population Theory
D. The Ravenstein Migration Model

82. Which of the following best explains the elevated death rates characteristic of Stage 1 of this model?

A. Widespread industrial jobs create dangerous working conditions
B. Government population control policies deliberately keep death rates elevated
C. Limited access to medical care, sanitation, and reliable food supplies
D. High rates of emigration remove young adults from the population

83. What does the green-shaded area between the black birth-rate line and the red death-rate line in Stages 2 and 3 represent?

A. Total fertility rate
B. Natural increase
C. Net migration rate
D. Dependency ratio

84. Which of the following best describes the population pyramid shape shown beneath Stage 1?

A. Expansive — wide base tapering sharply to a narrow top
B. Constrictive — narrow base with a wide middle
C. Stationary — nearly uniform width at all age groups
D. Inverted — widest at the top with a narrow base

85. What does the dashed red line extending into Stage 5 suggest about possible future demographic trends?

A. Birth rates will eventually exceed death rates again, reversing population decline
B. Death rates may fall below birth rates due to medical advancements
C. The population will stabilize permanently at replacement-level fertility
D. Birth rates may fall below death rates, producing natural population decrease

86. Which of the following countries is most likely currently in Stage 4 or Stage 5 of this model?

A. Niger
B. Bangladesh
C. Japan
D. Brazil

87. Which change most directly drives the transition from Stage 2 to Stage 3 in this model?

A. Death rates begin to fall rapidly due to improved sanitation
B. Birth rates begin to decline as industrialization, urbanization, and education for women increase
C. Total population reaches its peak and begins to decline
D. Life expectancy decreases as new epidemic diseases emerge

88. Which of the following is most directly indicated by the changing shapes of the population pyramids in the lower panel?

A. Population aging and a rising median age over time
B. Increasing rates of international immigration in later stages
C. Increasing infant mortality rates as development proceeds
D. A growing youth cohort driven by persistently high fertility

89. Which stage is associated with the most rapid total population growth, as represented by the expanding yellow area in the chart?

A. Stage 1, when both birth and death rates are high
B. Stage 2, when death rates fall sharply while birth rates remain high
C. Stage 4, when both birth and death rates reach low equilibriums
D. Stage 5, when declining birth rates produce population loss

90. Which of the following represents the most significant limitation of this model that a geographer would likely critique?

A. It fails to account for the role of religion and culture in influencing fertility across different societies
B. It overestimates the role of death rates while ignoring birth rate trends entirely
C. It was developed using only data from developing nations and cannot apply to industrialized economies
D. It assumes all countries follow the same linear progression through stages, ignoring variation caused by colonialism, war, or policy

Questions 91-100 are based on the image in Section 10 on the resource page.

91. Which irrigation technique is depicted in this aerial photograph of agricultural fields in the Saudi Arabian desert?

A. Drip irrigation
B. Flood irrigation
C. Center-pivot irrigation
D. Terrace irrigation

92. Which of the following best explains why the irrigated fields in this image are circular rather than rectangular?

A. Circular fields reduce wind erosion more effectively than other shapes
B. A rotating arm pivoting around a central water source naturally traces a circular path
C. Saudi land-use law requires circular field boundaries to conserve desert soil
D. Satellite mapping software automatically divides arid land into circular parcels

93. The water used to support the agriculture shown in this image is most likely drawn from which source?

A. Ancient fossil groundwater extracted from deep aquifers
B. Seasonal monsoon rainfall captured in surface reservoirs
C. Desalinated water piped inland from the Persian Gulf coast
D. Reclaimed municipal wastewater from Riyadh

94. Which of the following geographic concepts best describes the agricultural practice visible in this image?

A. Subsistence farming
B. Shifting cultivation
C. Nomadic pastoralism
D. Capital-intensive commercial agriculture

95. Which of the following environmental consequences is most directly associated with the irrigation system shown in this image?

A. Depletion of non-renewable aquifer water supplies
B. Deforestation and loss of tropical biodiversity
C. Increased frequency of coastal flooding due to runoff
D. Soil erosion caused by heavy monsoon rainfall

96. Saudi Arabia's decision to develop the type of agriculture shown in this image most directly reflects which geopolitical goal?

A. Earning hard currency through agricultural exports to Europe
B. Achieving food self-sufficiency to reduce dependence on food imports
C. Complying with international agreements on desert land reclamation
D. Providing employment for a large rural agricultural labor force

97. Which of the following best explains why the Green Revolution technologies that enabled farming in arid environments like this are considered controversial in human geography?

A. They redistribute land from wealthy landowners to subsistence farmers
B. They increase short-term food production while creating long-term environmental and resource sustainability problems
C. They are controlled exclusively by multinational corporations that exploit developing nations
D. They were designed only for humid tropical climates and are ineffective in true desert environments

98. Which of the following Von Thünen model principles is most directly violated by the agricultural land use pattern visible in this image?

A. Farmers will produce the highest-value crop that the soil can support
B. Land use intensity decreases with distance from the central market
C. Agricultural zones are organized according to transportation costs and distance to market
D. Subsistence farmers prefer to farmland nearest to their village

99. The landscape transformation visible in this image is best characterized as an example of which of the following human geography concepts?

A. Sequent occupance
B. Sense of place
C. Environmental determinism
D. Cultural landscape modification

100. Based on the evidence visible in this image, which of the following statements about the long-term sustainability of this agricultural system is best supported?

A. The system is likely unsustainable in the long term because it depends on a finite, non-renewable water source
B. The system is highly sustainable because Saudi Arabia receives abundant seasonal rainfall to recharge the aquifers
C. The system is sustainable because center-pivot irrigation uses water far more efficiently than any other method
D. The system is sustainable because the circular field design naturally captures rainwater and minimizes runoff

Tiebreaker

This question will only be scored if there is a tie for placement on the exam. **This is a required question, but there is no penalty for a wrong answer to this question.** Write your answer legibly in the space provided on your scantron.

What is the total land area of Greenland? Give your answer in either square miles or square kilometers, but make sure to specify your units in the space provided.