



UNITED STATES  
GEOGRAPHY CHAMPIONSHIPS

**2023 US Geography Championships  
Multiple Choice Examination - Part 1**

Name \_\_\_\_\_

School \_\_\_\_\_

Check here \_\_\_\_\_ if you were born **before** July 1, 2007

Check here \_\_\_\_\_ if you were born **on or after** July 1, 2007

**Instructions** – This portion of the multiple-choice examination consists of 40 questions. You will receive two points for a correct answer. You will lose one point for an incorrect answer. Blank responses lose no points. Please fill in the bubbles completely on the answer sheet. You may write on the examination, but all responses must be bubbled on the answer sheet. All images are contained in the resource document. Diacritic marks such as accents may have been omitted from place names and other proper nouns. You have one hour to complete both the written portion of the examination and this set of multiple-choice questions.

Questions 1-10 refer to the image in section 1 on the resource document.

1. By most estimates, in what decade did the global population become more urban than rural?

- A. the 1890s
- B. the 1950s
- C. the 1980s
- D. the 2000s

2. As of 2020, what percentage of the global population lives in urban areas according to the UN?

- A. 80%
- B. 70%
- C. 55%
- D. 45%

3. According to the World Bank as of 2020, how many people live in cities that could see half a meter of sea-level rise by 2050?

- A. 800 million
- B. 500 million
- C. 200 million
- D. 50 million

4. Which of these is NOT a major cause for increasing flood risks in coastal cities?

- A. rising global sea levels
- B. over-development and the replacement of green spaces with concrete and buildings
- C. the increasing intensity of severe weather events like tropical cyclones
- D. agricultural land use in areas surrounding coastal cities

5. On which of these continents are the largest number of people at risk from flooding and rising sea levels in coastal cities?

- A. Europe
- B. Asia
- C. Africa
- D. North America

6. Which of these is a major cause of land subsidence in cities like Jakarta, Indonesia and Houston, Texas?

- A. faulty flood control
- B. erosion caused by tropical cyclones
- C. excessive groundwater extraction
- D. minor earthquakes

7. Due to the rapid sinking of Jakarta, the Indonesian government has approved a plan for which of these actions at an estimated cost of \$33 billion?

- A. building a large system of natural levees around the entire city
- B. relocating the capital over 100 miles to an inland location on the island of Java
- C. a system of hydraulic lifting to raise the city a further 2 feet above sea level
- D. the construction of extensive mangrove forests as barriers against rising seas

8. Which of these is NOT a result of land subsidence in major cities?

- A. damage to buildings and infrastructure
- B. disruptions to sewer and water services
- C. increase in flood risk
- D. increasing water demand

9. In order to address worsening flooding during the rainy season, Bangkok, Thailand constructed which of these in 2017 to help retain rainwater and prevent flooding?

- A. a large urban park
- B. a massive system of pumping stations
- C. an increased network of raised roadways
- D. a system of elevated walkways

10. All of these are methods to increase the recharge of groundwater EXCEPT which of the following?

- A. artificially injecting treated water into aquifers
- B. desalination of seawater to make it potable
- C. use of permeable asphalt and soakways in construction
- D. restoration and expansion of urban green spaces

Questions 11-20 refer to the image in section 2 on the resource document.

11. Which of these best defines the term longshore drift?
- the formation of estuaries and other coastal landforms by the action of rivers and their currents
  - the natural erosion of coastal landforms due to natural forces
  - transportation of sediments along a coast parallel to the shoreline by the action of waves and current
  - the migratory patterns of marine wildlife and plants due to currents
12. Which of these is NOT a landform created by longshore drift?
- sea stack
  - spit
  - barrier island
  - tombolo
13. What number on the diagram represents a spit?
- 1
  - 2
  - 4
  - 5
14. What number on the diagram represents a tombolo?
- 1
  - 2
  - 4
  - 5
15. What number on the diagram represents a lagoon?
- 1
  - 2
  - 4
  - 5
16. Which of the following best describes the difference between a lagoon and a bay?
- a bay is a recessed body of water connected to a main body of water while a lagoon is cut off from the main body of water by a barrier
  - bays are exclusively saltwater while lagoons may be freshwater, saltwater or brackish
  - lagoons are formed by wave action while bays may be formed by either wave action or by the action of river currents
  - lagoons are part of larger coastal ecosystems like wetlands while bays are not
17. Which of these is NOT a necessary part of the process of coastal sand dune development?
- the beach is wide enough for sand to accumulate
  - there is a large enough quantity of sand present
  - the prevailing winds are strong enough to move the existing sand
  - the presence of burrowing animals like crabs

18. Which of these factors is most responsible for determining the equilibrium height of coastal dunes?
- the distance between the water line and where vegetation can grow
  - tidal range
  - seasonal storms
  - human activity
19. Which of these best defines the term climax community?
- species that colonize disturbed lands early and eventually achieve stability
  - communities that reach a steady state through ecological succession
  - species that evolve and adapt to harsh conditions into which they are introduced
  - rhizomes like bamboo that can colonize various environments and achieve stable populations
20. Which of these would be a common climax community for a coastal sand dune system?
- marram grass, sea wort grass, or other types of sea grasses
  - lichen and mosses
  - ruderal species including kudzu
  - heathlands or coniferous forests

Questions 21-30 refer to the image in section 3 on the resource document.

21. Which of these best describes the Malthusian theory?
- that surplus food production over time would cause farmers to abandon agriculture
  - that population would grow exponentially and food production arithmetically
  - that there would be a steep population decline due to industrialization that would hinder economic growth
  - that industrialization would cause farmers to produce less food because cash crops were more profitable
22. All of these prevented Malthus's predictions from coming true EXCEPT which of the following?
- rapid advancements in agricultural technology
  - several global pandemics in the early 19<sup>th</sup> century that resulted in population decreases
  - population increases were less dramatic than Malthus predicted
  - agricultural output far outpaced population growth
23. Which of these is NOT a positive check on population according to Malthusian theory?
- contraception
  - war
  - famine
  - poor health

24. In contrast to Malthus, economist Ester Boserup theorized which of the following in the 20<sup>th</sup> century about the link between population and agricultural production?
- A. a higher population means more people will become farmers
  - B. that there is no measurable link between population and agriculture
  - C. that increasing population puts pressure on the agricultural system but also spurs innovation and results in higher agricultural output
  - D. there is no practical limit to the human population that the earth can sustain

25. Which of these is NOT an innovation that helped spur the Second Agricultural Revolution?
- A. the steel horse plow
  - B. the mechanical seed drill
  - C. the mechanical reaper
  - D. the metes and bounds system

26. Which of these is true of the Green Revolution?
- A. it was able to increase crop yields using improved versions of traditional farming techniques
  - B. it resulted in increased crop yields through the use of technology, improved crops, and fertilizers
  - C. all of the techniques used in the Green Revolution were organic
  - D. it called for a huge increase in both the number of farms and the amount of land under cultivation

27. Given the information in the chart, which of these is true of cereal production during the Green Revolution?
- A. cereal production has increased roughly 250% since 1961
  - B. cereal production has increased roughly 150% since 1961
  - C. cereal production has increased but has not kept pace with population increase since 1961
  - D. cereal production has increased less than 50% since 1961

28. Which of these statements about land use is corroborated by the data in the chart?
- A. land use for agriculture has increased dramatically since 1961 while land use for cereal production has remained roughly the same
  - B. in times of famine, land use for cereal production increases
  - C. the effects of climate change can be seen clearly in the fluctuations in cereal yield
  - D. worldwide population has risen fairly steadily since 1961

29. Yuan Longping is credited with developing and popularizing the use of which of these during the Green Revolution?
- A. dwarf wheat
  - B. indigenous corn varieties
  - C. hybrid rice
  - D. heirloom squash

30. Which of these is NOT a negative outcome of the Green Revolution?
- A. increased dependency on fertilizers
  - B. increased use of fossil fuels
  - C. decreasing profit margins for some crops
  - D. increasing food prices

Questions 31-40 refer to the image in section 4 on the resource document.

31. Which of these is the term for the statistic shown on this graph?
- A. fertility rate
  - B. crude birth rate
  - C. rate of natural increase
  - D. per capita birth rate

32. What type of event do the darker vertical lines on this graph represent?
- A. major wars
  - B. periods of civil or political unrest
  - C. economic crises or recessions
  - D. major changes in immigration to the US

33. Based on the information in this graph, which of these is true of the birth rate in the US during that type of event?
- A. they correlate with a decrease in births
  - B. they correlate with an increase in births
  - C. they do not correlate with a change in births
  - D. it is impossible to determine whether these events impact births in the US

34. What additional information would be necessary to determine the population growth rate of the US over this timeframe?
- A. death rate
  - B. total number of immigrants
  - C. the rate of natural increase
  - D. both mortality and migration rates

35. Which of these is true of the immigrant birth rate in the US?
- A. it is currently roughly the same as the birth rate for native born Americans
  - B. it has historically been lower than that of native born Americans
  - C. it has declined measurably since 2008
  - D. it has not historically been tied to educational attainment or economic status

36. Strict enforcement of child support laws has had which of the following effects in certain US states?

- A. a drop of roughly 20% in unmarried births
- B. a steep decline in total fertility rate
- C. a sharp increase in divorce rates
- D. a large out-migration of women of child-bearing age

37. Which of these best defines the fertility-income paradox?

- A. there is some correlation between fertility and income but no causal relationship exists between the two
- B. there is generally a positive correlation between income and total fertility rate
- C. there is generally an inverse correlation between income and total fertility rate
- D. there is no measurable correlation between income and total fertility rate

38. The 'infertility belt' in central Africa, in which women have fewer children than in surrounding nations, is mostly the result of which of these factors?

- A. higher income levels in this region
- B. worse reproductive health outcomes in this region
- C. a much higher level of conflict and warfare than surrounding regions
- D. more liberal democratic governments in this region

39. Which of these countries has a fertility rate above replacement level as of 2022 according to the UN?

- A. Denmark
- B. Sweden
- C. Malaysia
- D. Saudi Arabia

40. Which of these best characterizes the fertility rate of the world as of 2022 according to the UN?

- A. it is roughly 2.4
- B. it is barely above replacement level
- C. it is barely below replacement level
- D. it is roughly 1.8