

HUMAN GEOGRAPHY

SECTION II

Time—1 hour and 15 minutes

3 Questions

Directions: You have 1 hour and 15 minutes to answer all three of the following questions. It is recommended that you spend approximately one-third of your time (25 minutes) on each question. It is suggested that you take up to 5 minutes of this time to plan and outline each answer. You may plan your answers in this orange booklet, but no credit will be given for anything written in this booklet. **You will only earn credit for what you write in the separate Free Response booklet.**

Question 1

1. The rate of natural increase (RNI), also known as the natural increase rate, helps geographers assess annual population growth or decline.
 - A. Define the concept of RNI.
 - B. Describe how a country may have a negative RNI.
 - C. Compare ONE difference between RNI and the total fertility rate as indicators of population change.
 - D. Explain ONE reason why RNI in urban areas may vary significantly from RNI in rural areas in the same country.
 - E. Explain why there are often differences in doubling times between less developed countries and more developed countries.
 - F. Explain ONE reason ethnonationalism might lead a government to promote pronatalist policies.
 - G. Explain the degree to which a unitary government may be more effective than a federal government in enforcing antinatalist policies.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

Question 2

**PER CAPITA PRODUCTION OF STAPLE FOOD CROPS
IN HEARTH-OF-DOMESTICATION COUNTRIES**

| Country | Corn (maize) (pounds per capita) | Potato (pounds per capita) | Rice (pounds per capita) | Yam (pounds per capita) | Cassava (manioc or yuca) (pounds per capita) |
|----------------|--|--------------------------------------|------------------------------------|-----------------------------------|--|
| | Hearth: Mexico | Hearth: Peru | Hearths: China and Mali | Hearth: Niger River basin | Hearth: Amazon River basin |
| Brazil | 1,056 | 39 | 108 | 3 | 183 |
| China | 412 | 145 | 333 | 0 | 52 |
| Mexico | 471 | 31 | 4 | 0 | 0 |
| Nigeria | 121 | 15 | 93 | 549 | 618 |
| Peru | 107 | 362 | 216 | 0 | 13 |

Source: Food and Agriculture Organization of the United Nations

2. Staple food crops provide most of the carbohydrates in people's diets, and some staples are also used as animal feed or in the distillation of ethanol. Cassava is a root crop (tuber) that is the source of farinha, tapioca, and the pearls in bubble tea.
- Describe the concept of an early hearth of domestication.
 - Identify the crop listed in the table that has diffused the least from its hearth of domestication to the countries listed in the table.
 - Explain how food preferences can be a culture trait.
 - Explain how the Columbian Exchange contributed to a crop's diffusion beyond its hearth of domestication.
 - Explain how the data in the table support the concept of a crop's consumption pattern being the result of globalization.
 - Explain why a crop may be farmed intensively in a less developed country and be farmed extensively in a more developed country.
 - Explain ONE way the global supply chain links crops such as those listed in the table to consumers in other countries.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

Question 1: No Stimulus**7 points****(A) Define the concept of RNI.****1 point**

Accept one of the following:

- A1. The difference between the crude birth rate and crude death rate.
- A2. The difference between the crude birth rate and crude death rate, expressed as a percentage or as thousands per population.
- A3. The number of live births and the number of deaths divided by the population per thousand population.
- A4. The difference between the crude birth rate and crude death rate over a particular time period (e.g., a year).
- A5. The annual percent change in population, not including immigration or emigration.

(B) Describe how a country may have a negative RNI.**1 point**

Accept one of the following:

- B1. A country can have a negative RNI if the death rate is higher than the birth rate in a given year.
- B2. A country can have a negative RNI if the number of deaths exceeds the number of live births in a given year.

(C) Compare ONE difference between RNI and the total fertility rate as indicators of population change.**1 point**

Accept one of the following:

- C1. RNI is the annual percent growth rate of a population (not including immigration or emigration), while the total fertility rate (TFR) estimates the number of children that may be born to women of birthing age or aged 15–45.
- C2. RNI includes both crude birth and death rates, while TFR is a measurement of the number of children likely to be born to a woman and does not involve any mortality measures.
- C3. RNI is an annual statistic for a specific year, while the TFR is an estimate at a specific point in time (e.g., snapshot).
- C4. An RNI of 0.0 is a zero-growth population, while a TFR of 2.1 is a population that is replacing itself but will not grow in numbers over time.
- C5. RNI can predict future population growth based upon the demographic transition, while TFR can predict future population growth by comparison to the replacement rate (TFR=2.1).

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- (G) Explain the degree to which a unitary government may be more effective than a federal government in enforcing antinatalist policies. 1 point**

Accept one of the following:

Statement or indication of a moderate or high degree

AND

- G1. A unitary government could more easily enact countrywide family planning policies or laws that restrict reproduction (e.g., high penalties, criminalization, financial disincentives, use of informants and/or secret police to identify violators).
- G2. A unitary government may have an effective, specialized, and/or centralized national public health care system and/or national health insurance system (e.g., provide family planning services more effectively and/or at lower cost).
- G3. A unitary government may have a more efficient system to deliver incentives directly to participating citizens (e.g., have fewer levels of governance where money could be siphoned off for other public programs or be stolen through corruption).
- G4. A federal government may have regional variations in law or policy that could result in less effective programs in some areas (e.g., variations in the delivery of healthcare, access to family planning services, the enforcement of federal policies to control population or reduce fertility rates).

OR

Statement or indication of a low or moderate degree

AND

- G5. There may be little to no difference between the effectiveness of unitary governments and federal governments to deliver an antinatalist policy if there is an inadequate, inaccessible, and/or unaffordable healthcare system (e.g., developing effective family planning programs or policies, access to family planning services).
- G6. There may be little to no difference between the effectiveness of unitary governments and federal governments to deliver an antinatalist policy if there is an adequate, accessible, and/or affordable healthcare system.
- G7. There may be little to no difference between the effectiveness of unitary governments and federal governments to deliver an antinatalist policy if the government lacks enforcement capabilities or lacks the ability to fund and/or deliver incentives to participating citizens.

Total for question 1: 7 points