

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).

(D)	Explain ONE reason why RNI in urban areas may vary significantly from RNI in rural areas in the same country.	1 point
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Accept one of the following:

- D1. Urban populations tend to have fewer children than rural populations due to the reduced need for agricultural labor.
 - D2. The cost of living in urban areas (e.g., housing, schools) tends to be higher than in rural areas, and this may incentivize women to have fewer children leading to a lower RNI.
 - D3. Women in urban areas tend to have greater access to health care, health education, and/or family planning resources, which reduces the probability of having or the propensity to have children (fecundity).
 - D4. Women in urban communities commonly work outside of the home, having less time to care for children.
 - D5. Families in urban housing tend to have less space to house children.
 - D6. Women in urban areas tend to have higher levels of education, which reduces the probability of having children, the propensity to have children (fecundity), and/or delays the age at which women have children.
 - D7. Women in urban areas tend to have more political power, which reduces the probability of having children, the propensity to have children (fecundity), or delays the age at which women have children.
 - D8. Women in urban areas tend to have greater financial stability, which reduces the probability of having children, the propensity to have children (fecundity), or delays the age at which women have children.
 - D9. The higher level of access to health care in cities reduces infant and/or child mortality rates, which reduces the need for families to have additional children.
 - D10. People in rural areas may lack access to or may not be able to afford contraception and family planning due to increased levels of poverty, or lack of health services.
 - D11. People in rural areas may hold on to traditional cultural values that do not support limiting birth rates, resulting in higher rates of natural increase in rural areas.
 - D12. People in rural areas may need more children to work or help with labor-intensive agricultural work, resulting in higher rates of natural increase in rural areas.
 - D13. Women in rural areas may lack access to or may not be able to afford education, limiting opportunities outside the home, and resulting in higher rates of natural increase.
 - D14. Women in rural areas may have less access to health care which may increase infant mortality rates and/or child mortality rates, and/or increase the need or desire for families to have additional children.
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