

Human Geography: Population Pyramids & Demographic Transition



Use the matching sheet ID when checking answers.

Part A: Demographic Analysis. Evaluate population data and answer the human geography questions below.

1. A developing country exhibits an expansive 'Christmas-tree' shaped population pyramid with a broad base of young children and a rapidly tapering apex. What demographic reality does this shape indicate?

Answer: B. High crude birth rates (CBR) and high infant mortality, characteristic of rapid population expansion (Stage 2 DTM)

A broad triangular base indicates high birth rates and a high proportion of youth, typical of Stage 2 developing nations experiencing rapid population expansion due to falling death rates.

2. In Stage 4 of the Demographic Transition Model (observed in post-industrial nations like Japan, Germany, and Italy), what trend occurs regarding birth and death rates?

Answer: B. Both birth rates and death rates stabilize at low levels, resulting in near-zero or stationary population growth

In Stage 4, urbanization, female education, and access to family planning cause birth rates to decline to meet low death rates, stabilizing total population size.

3. Which societal challenge is MOST directly triggered when a nation develops a high elderly dependency ratio (an inverted urn-shaped pyramid with more retirees than working-age citizens)?

Answer: B. Strained pension systems, rising healthcare costs, and labor shortages in the domestic workforce

When fewer active tax-paying workers must support an expanding retired elderly demographic, pension solvency, geriatric healthcare, and workforce productivity face acute pressure.

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Part B: Demographic Transition Model (DTM) Stages. Categorize each societal description into the appropriate DTM Stage.

Sort these items: Industrializing; death rate drops precipitously due to clean water and sanitation while birth rate stays high; Urbanizing; fertility rate drops significantly as women gain educational and career opportunities; Post-industrial; sub-replacement fertility (TFR < 2.1) leading to an aging society and shrinking natural workforce; Expansive pyramid with high youth dependency ratio (e.g., Sub-Saharan Africa); Birth rates decline to match low death rates; column-like stationary population pyramid; Family sizes decrease as agricultural child labor becomes less economically necessary in cities

Stage 2: Rapid Expansion	Stage 3: Moderate Growth	Stage 4 / 5: Stationary / Declining
Industrializing; death rate drops precipitously due to clean water and sanitation while birth rate stays high; Expansive pyramid with high youth dependency ratio (e.g., Sub-Saharan Africa)	Urbanizing; fertility rate drops significantly as women gain educational and career opportunities; Family sizes decrease as agricultural child labor becomes less economically necessary in cities	Post-industrial; sub-replacement fertility (TFR < 2.1) leading to an aging society and shrinking natural workforce; Birth rates decline to match low death rates; column-like stationary population pyramid