The Ultimate AP® Human Geography Unit 2 Cheat Sheet

2.1–2.2 Population Distribution & Its Consequences

Where People Live (2.1)

Physical factors: climate, landforms, water access, soil. People cluster in low, temperate, well-watered areas.
Human factors: jobs, transport, govt policy, history (old river-valley hearths like the Nile, Ganges & Huang He still dense).
Clusters: East Asia, South Asia, Southeast Asia & Europe hold most of the world's people (~2/3 of all).
Sparse zones: very dry, very cold, very high, very wet (deserts, tundra, high mountains, rainforest).

Density Measures

Type	Formula	Tells you
Arithmetic	People / land	Crowding overall
Physiological	People / arable	Strain on farmland
Agricultural	Farmers / arable	Farm tech level

Egypt: modest arithmetic density but huge physiological density (people packed along the Nile).
High agricultural density → many farmers per acre → less mechanized, often less-developed economy.
Scale: national averages hide local clusters (e.g., Canada's people hug the US border); ask "at what scale?"

Consequences (2.2)

Carrying capacity: max pop an area can support w/o damage. Depends on tech & resources.
Economic: dense areas → bigger labor pool & markets, but strain on housing, jobs, transit & services.
Social: crowding, pressure on schools & health care.
Political: more people → more seats/votes.
Environmental: dense or fast-growing areas → deforestation, water shortages, air pollution, sprawl, lost farmland.

⚠ High arithmetic density ≠ overpopulation. Compare people to resources, not just to land.

✓ FRQ: name the density type, then explain what it reveals about that place (e.g., farmland strain).

2.3 Population Composition

Key Measures

Sex ratio: males per 100 females. >100 in Gulf states (male labor migrants); <100 in aging places.
Dependency ratio = (ages 0–14 + 65+) ÷ (ages 15–64) × 100 → dependents per 100 working-age people.
Young dependents high → need schools & jobs later. **Old dependents** high → need pensions, health care.

Reading Population Pyramids

Pyramid: bar graph of age cohorts (5-yr groups) by sex; males on the left, females on the right; % or #.

Shape	Means	DTM stage
Wide base	High CBR, growth	Stage 2
Base narrowing	CBR falling	Stage 3
Column	Stable, low CBR	Stage 4
Narrow base	Pop. shrinking	Stage 5

Bulges & Notches

Bulge: big cohort (e.g., U.S. baby boom, 1946–64) → moves up & shows up older in each new pyramid.
Notch: small cohort → war deaths, famine, epidemic, or strict birth limits (China's one-child-era cohorts).
Lopsided working ages: many more males 20–40 → male labor in-migration (Qatar, UAE, Saudi Arabia).
Echo: a big cohort's children form a smaller 2nd bulge ~25–30 yrs later (U.S. millennials, born 1981–96).
Wide top: long life expectancy; females outnumber males at the oldest ages b/c women live ~5 yrs longer.

Using Pyramids

Predict needs: wide base → schools, then jobs & housing later; heavy top → elder care, pensions, health care.

⚠ A pyramid is a snapshot of one year. Trends need 2+ pyramids of the same place over several years.

✓ FRQ: name the cohort, describe the shape, then link it to a cause or a future need of that place's people.

2.4 Population Dynamics

Core Rates

Measure	Definition
CBR	Births per 1,000 people/yr
CDR	Deaths per 1,000 people/yr
RNI	(CBR − CDR) ÷ 10, in %
TFR	Avg. births per woman
IMR	Infant deaths per 1,000 births

Replacement level: TFR ≈ 2.1 keeps pop. steady (w/o migration). Below → long-run decline.
Life expectancy: avg. years a newborn is expected to live. ↑ w/ health care, food, clean water, sanitation.

Growth Math

Pop. change = (births − deaths) + (immigrants − emigrants).
Doubling time ≈ 70 ÷ RNI (Rule of 70). RNI 2% → doubles in ~35 yrs; RNI 1% → ~70 yrs; 0.5% → ~140 yrs.
Example: CBR 30, CDR 10 → RNI = (30 − 10) ÷ 10 = 2.0% → ~35-yr doubling time (fast growth, Stage 2).
Natural increase ignores migration. A place can still grow w/ RNI < 0 if immigration is high (Germany).

Patterns & Drivers

High TFR: rural, farm economies (kids = labor), high IMR, low female education, religious & cultural norms.
Low TFR: urban, high cost of raising kids, women in school & paid work, contraception access, pensions.
Fastest growth today: sub-Saharan Africa.
Slowest/declining: Europe, East Asia.
Momentum: a young pop. keeps growing for decades even after TFR drops to 2.1 (many future parents).

⚠ CBR & CDR are per 1,000; RNI is a percent (divide by 10).

✓ Explain WHY a rate is high or low: tie it to the economy, health care, or gender roles in that place.

2.5 The Demographic Transition Model

DTM Stages

Stage	CBR / CDR	Growth
1 High stationary	High / high	Very low
2 Early expanding	High / falls	Rapid
3 Late expanding	Falls / low	Slowing
4 Low stationary	Low / low	Very low
5 Declining	CBR < CDR	Negative

What Drives Each Shift

Stage 1 → 2: CDR drops b/c of better food supply, sanitation, clean water, vaccines (Industrial/Medical Rev.).
Stage 2 → 3: CBR drops b/c of urbanization, women's education, contraception, lower IMR, kids cost more.
Stage 4 → 5: TFR well below 2.1 + aging pop. → deaths outnumber births → pop. shrinks w/o immigration.
Examples: Stage 2: Niger, Chad. Stage 3: India, Mexico. Stage 4: U.S., France. Stage 5: Japan, Italy.

Epidemiologic Transition

ETM: shift in leading causes of death as a country develops (infectious → chronic). Pairs w/ DTM stages.
Stages: 1 pestilence & famine → 2 receding pandemics → 3 degenerative (heart disease, cancer).
Later stages: 4 delayed degenerative (longer life, better treatment) → 5 reemerging infectious disease.
Stage 5 causes: antibiotic resistance, global travel, poverty, vaccine gaps (e.g., COVID-19, TB, measles).

Limits of the DTM

Critiques: built on Western Europe's path; ignores migration & govt policy; stage timing & speed vary a lot.

⚠ No country is in Stage 1 today. Stage 2 is the rapid-growth stage (biggest CBR–CDR gap), not Stage 3.

✓ FRQ: cite a stage AND the CBR/CDR change that defines it, plus one specific cause of that change.

2.6–2.7 Malthus & Population Policies

Malthusian Theory (2.6)

Malthus (1798): pop. grows geometrically (2, 4, 8, 16...); food supply grows only arithmetically (1, 2, 3, 4...).
Prediction: pop. outruns food → famine, disease, war (**positive checks**) unless births fall first.
Preventive checks: moral restraint, later marriage, celibacy → fewer births (Malthus's preferred fix).
Neo-Malthusians (e.g., Ehrlich, *The Population Bomb*, 1968): add resource depletion, pollution & climate.

Critiques

Boserup: pop. pressure drives farm innovation (more labor, multi-cropping) → more food, not famine.
Tech: Green Revolution (HYV seeds, fertilizer, irrigation) raised yields far past his forecast (India, Mexico).
Distribution: hunger today comes mostly from poverty, conflict & access, not total world food supply.
Falling TFR: many countries cut birth rates on their own as they developed, w/o famine or war (Brazil, Iran).

Population Policies (2.7)

Type	Goal	Example
Antinatalist	Fewer births	China 1980–2015
Pronatalist	More births	France, Hungary
Immigration	Shape migration	Canada points

China: one-child policy → low TFR, skewed sex ratio, fast aging → 2-child (2016), 3-child (2021).
India: 1970s forced sterilization drives backfired; it later shifted to voluntary family planning & education.
Pronatalist tools: baby bonuses, paid parental leave, subsidized child care, tax breaks for families.

⚠ Pronatalist policies rarely lift TFR much: costs of raising kids & career goals still win out (S. Korea).

✓ Policy FRQs: name the type, the goal, and one intended + one unintended effect (China's sex ratio).

2.8–2.9 Women & Demographic Change; Aging

Women & Demographic Change (2.8)

Female education ↑ → later marriage, later 1st birth, more paid jobs → fewer children per woman (TFR ↓).
Paid work: careers raise the cost (lost wages) of time out of work → smaller, later families, more child care.
Contraception & health care access → women control family size; IMR ↓ → fewer births needed per family.
Legal & social change: property rights, voting, divorce laws → more female choice in family decisions.
Migration: women are now ~half of intl migrants; often in care, domestic & health care work abroad (Philippines).

Aging Populations (2.9)

Causes: low TFR + longer life expectancy → the share of people age 65+ rises steadily, median age ↑.

Effect of aging	Example response
↑ Elderly dependency	Raise retirement age
Pension, health costs ↑	Raise taxes, cut benefits
Labor shortage	Admit more immigrants
Shrinking pop.	Pronatalist incentives

Examples: Japan (~30% age 65+), Italy, Germany, South Korea (world's lowest TFR, under 1.0).
Economy: fewer workers paying in, more retirees drawing out → strain on public budgets, pensions & care.
Space: closed schools, empty rural villages, new elder-care housing & services, retirement towns (Florida).

Making the Link

Chain: women's education ↑ → TFR ↓ → aging ↑ → dependency & labor-shortage issues ↑.

⚠ Aging is not only a rich-country issue: China & Thailand are aging before getting rich ("old before rich").

✓ Name a specific policy response (e.g., raising the retirement age) and explain how it eases the problem.

2.10–2.11 Causes & Types of Migration

Push & Pull Factors (2.10)

Factor	Push (leave)	Pull (go to)
Economic	No jobs	Higher wages
Political	War, persecution	Freedom, safety
Social/cultural	Discrimination	Family, community
Environmental	Drought, floods	Mild climate

Intervening obstacle: barrier along the way (border wall, cost, visa rules, mountains, deserts, war zones).
Intervening opportunity: a closer pull (job, city) that stops the move short of the planned final goal.

Models & Patterns

Ravenstein's laws: most moves are short; long moves go to big cities; each flow has a counterflow.
Distance decay: fewer migrants as distance ↑. **Gravity model**: flow ∝ (pop_1 × pop_2) ÷ distance.
Chain migration: migrants follow family/friends who moved earlier → clusters of 1 origin group (enclaves).

Forced vs. Voluntary (2.11)

Forced: no real choice to stay. **Refugee**: crossed an intl border w/ a well-founded fear of persecution at home.
IDP (internally displaced person): forced to flee but still inside own country (Syria, Sudan, Ukraine, Colombia).
Asylum seeker: asks for refugee protection in another country; claim not yet decided by the host.
Voluntary: chosen move: **transnational**, **internal**, **step**, **chain**, **guest worker**, **transhumance** (seasonal herding).
Historic forced: Atlantic slave trade; Trail of Tears (1830s); 1947 Partition of India & Pakistan (~15 million).

⚠ Refugee vs. IDP: a refugee crossed an international border; an IDP did not leave the home country.

✓ Pair a push w/ its matching pull to explain a specific flow (war in Syria → safety & jobs in Germany).

2.12 Effects of Migration

On the Sending Place

Remittances: money sent home → big share of GDP in places like Nepal, Honduras, Tajikistan (20%+ of GDP).
Brain drain: skilled workers leave → loss of doctors, nurses, engineers & teachers from the origin country.
Demographics: young adults leave → aging origin, skewed sex ratio, fewer births & workers back home.
Return migrants: bring savings, skills & new ideas back home (cultural diffusion, new local businesses).

On the Receiving Place

Brain gain: skilled newcomers fill labor gaps; migrants pay taxes, start businesses & fill care jobs.
Ethnic enclaves: neighborhoods w/ shared language, shops, worship (e.g., Chinatowns, Little Havana).
Culture: new foods, languages, religions → diffusion, **acculturation**, **assimilation**, **syncretism**.
Demographics: migrants are mostly young adults → lower dependency ratio, more births in the host country.

Policy & Politics

Term	Meaning
Guest worker	Temp. legal labor migrant
Quota	Cap on migrants per country
Xenophobia	Fear/dislike of outsiders
Counterurbanization	City → rural/suburb move

Guest workers: Turkish workers in West Germany (1960s–70s); South Asians in the Gulf states today.
Internal flows: U.S. Great Migration (South → North), Sun Belt growth, China's rural → urban (hukou).

⚠ Effects cut both ways: name a positive AND a negative for both the origin and the destination country.

✓ FRQ: say WHO is affected (origin or destination), how they're affected, and at what scale (local → global).