

Exercise walk-through

Population Composition ■ 2.3

eXercise

You must be able to

- read a **population pyramid** 人口金字塔 (age and sex structure)
- define the **dependency ratio** 抚养比 and **sex ratio** 性别比
- link a pyramid's shape to a country's development stage
- explain what a wide base or narrow base means

Method — Reading a population pyramid

A **population pyramid** shows the share of each age group by sex. A **wide base** = many children (high fertility); a **narrow base** = low fertility; bulges show large cohorts.

Method — Dependency and sex ratios

Dependency ratio compares dependents (under 15 and over 64) to the working-age population. **Sex ratio** is the number of males per 100 females.

Method — Shape and development

A broad-based pyramid suggests a less developed, fast-growing population; a column/urn shape suggests a developed, aging one.

Practice 2.1 ■ 2 marks

State what a wide base on a population pyramid indicates.

Solution 2.1

Method: Reading a population pyramid

Worked steps

many young children **B1**; high birth rate / fast-growing population **B1**.

Practice 2.2 ■ 2 marks

Define the dependency ratio.

Solution 2.2

Method: Dependency and sex ratios

Worked steps

the ratio of dependents (under 15 and over 64) **B1** to the working-age (15-64) population **B1**.

Practice 2.3 ■ 1 mark

A pyramid is narrow at the base and wide in the older groups.

- (a) Describe this country's fertility.
- (b) State one challenge this age structure creates.

Solution 2.3

Method: Reading a population pyramid

Worked steps

(a) low fertility / few children **B1**. (b) a rising elderly dependency burden — pensions, healthcare, shrinking workforce **B1**.

Exam-style 3.1 ■ 1 mark

A country with a broad-based population pyramid most likely has

- A** low fertility and an aging population
- B** high fertility and rapid growth
- C** equal numbers in every age group
- D** more males than females at all ages

Solution 3.1

Method: Shape and development

- A low fertility and an aging population
- B high fertility and rapid growth**
- C equal numbers in every age group
- D more males than females at all ages



Worked steps

B. a wide base = high fertility and rapid growth.

Exam-style 3.2 ■ 1 mark

The number of males per 100 females in a population is the

- A** dependency ratio
- B** sex ratio
- C** arithmetic density
- D** rate of natural increase

Solution 3.2

Method: Dependency and sex ratios

- A dependency ratio
- B sex ratio** 
- C arithmetic density
- D rate of natural increase

Worked steps

B. males per 100 females is the sex ratio.

Exam-style 3.3 ■ 1 mark

A country has a high youth dependency ratio.

- (a) State which group makes the ratio high.
- (b) Explain one demand this places on the government.

Solution 3.3

Worked steps

(a) the large number of children (under 15) **B1**. (b) heavy spending on schools/child health and future job creation **B1**.