

Exercise walk-through

Total Fertility Rate ■ 3.7

eXercise

You must be able to

- define **total fertility rate** 总和生育率
- compare TFR to **replacement level** 更替水平 (~2.1)
- link TFR to population growth or decline

Method — Total fertility rate

TFR is the average number of children a woman is expected to have in her lifetime.

Method — Replacement level

Replacement-level fertility is about **2.1** (two to replace the parents, plus a bit for child mortality). At replacement, the population is roughly **stable** long-term.

Method — TFR and growth

- **TFR** $> 2.1 \rightarrow$ population grows.
- **TFR** $= 2.1 \rightarrow$ roughly stable.
- **TFR** $< 2.1 \rightarrow$ population eventually declines.

Method — Factors that lower TFR

TFR falls with **education of women**, **access to family planning**, urbanization, and higher child survival. Developed countries tend to have lower TFRs.

Practice 2.1 ■ 1 mark

Define total fertility rate.

Solution 2.1

Method: Total fertility rate

Worked steps

The average number of children a woman is expected to have in her lifetime **B1**.

Practice 2.2 ■ 1 mark

What is the approximate replacement-level TFR?

Solution 2.2

Method: Replacement level

Worked steps

About 2.1 **B1**.

Practice 2.3 ■ 1 mark

A country has a TFR of 1.5. Will its population grow or decline (long-term)?

Solution 2.3

Method: Replacement level

Worked steps

Decline **B1**.

Exam-style 3.1 ■ 1 mark

A TFR above 2.1 leads to a population that

- A** grows
- B** stays exactly constant
- C** declines
- D** disappears

Solution 3.1

A grows



B stays exactly constant

C declines

D disappears

Worked steps

A — grows.

Exam-style 3.2 ■ 2 marks

Country X has a TFR of 4.5; country Y has a TFR of 1.8.

- (a) State which population is growing and which is declining.
- (b) State one factor that lowers TFR.

Solution 3.2

Worked steps

(a) Country X (TFR 4.5) is growing; country Y (TFR 1.8) is declining **B1** **B1**. (b)
Any one: education of women, family planning access, urbanization **B1**.

Exam-style 3.3 ■ 2 marks

Explain why the replacement-level TFR is slightly above 2, not exactly 2.

Solution 3.3

Method: Replacement level

Worked steps

Two children replace the two parents, but some children die before reproducing, so a little above 2 is needed to keep the population stable **M1** **A1**.