S4 Citizenship and Social Development Practice Paper with Answers

Citizenship and Social Development · S4 · Data-response

Simulated-data practice paper on population ageing, education spending, hospital beds, public housing, waste and innovation jobs for S4 CSD, with full answers.

Part 1: Population structure and dependency

Data A (simulated): total population 7,410,000; people aged 65 or above take up 20.5% and those aged 15 to 64 take up 74.0%; there are 2,744,000 domestic households with an average of 2.7 persons, against 3.1 persons ten years ago. Study the data and answer all parts.

#	Question
1	Calculate the number of people aged 65 or above.
2	Calculate the elderly dependency ratio, that is the number of people aged 65 or above per hundred people aged 15 to 64. Give the answer to one decimal place.
3	Calculate the percentage change in average household size from 3.1 to 2.7 persons. Give the answer to one decimal place and state whether it is a rise or a fall.
4	Explain two reasons for the fall in average household size.

Part 2: Education spending and class ratios

Data B (simulated): government education expenditure is 117.4 billion dollars against a GDP of 2,880 billion dollars; there are 658,000 primary and secondary students taught by 57,000 teachers. Study the data and answer all parts.

#	Question
5	Calculate education expenditure as a percentage of GDP to one decimal place.
6	Calculate the average education expenditure per student. Give a whole number.
7	Calculate the average number of students per teacher to one decimal place.
8	With reference to the ratios above, explain two factors the government should consider when allocating education resources.

Part 3: Hospital beds and emergency demand

Data C (simulated): public hospitals record 2,178,000 emergency attendances a year and provide 29,500 beds, of which 58% are used by people aged 65 or above. The population is 7,410,000.

#	Question
9	Calculate the number of public hospital beds per thousand people to two decimal places.
10	Calculate the average number of emergency attendances handled by each bed per year to one decimal place.
11	Calculate the number of beds used by people aged 65 or above.

#	Question
12	Based on the data, suggest two measures to relieve pressure on public hospitals.

Part 4: Public housing applications and completions

Data D (simulated): there are 230,000 public housing applications, 13,500 units are completed each year, and the average waiting time is 5.5 years.

#	Question
13	Assuming both completions and applications stay unchanged, calculate the number of years needed to clear the existing applications to one decimal place.
14	If completions rise by 20%, calculate the new number of completions and the years needed to clear the applications to one decimal place.
15	Compare the results of the two parts above and calculate the reduction in years.
16	State two constraints on increasing public housing supply.

Part 5: Municipal solid waste and recycling

Data E (simulated): municipal solid waste disposal is 1.53 kg per person per day, the population is 7,410,000 and the current recycling rate is 32%.

#	Question
17	Calculate the daily total of municipal solid waste in tonnes. Give a whole number.
18	Calculate the daily quantity recycled in tonnes. Give a whole number.
19	If the recycling rate rises to 40%, calculate the daily disposal and the percentage fall relative to the present level to one decimal place.
20	Suggest two measures to raise the recycling rate and explain each.

Part 6: Research spending and innovation jobs

Data F (simulated): local research and development spending is 28.8 billion dollars against a GDP of 2,880 billion dollars; 50,000 people work in innovation and technology out of a total employment of 3,680,000.

#	Question
21	Calculate research spending as a percentage of GDP to one decimal place.
22	Calculate innovation and technology workers as a percentage of total employment to one decimal place.
23	If research spending grows by 10% each year for five years, calculate the spending after five years and its share of GDP, assuming GDP stays unchanged. Give one decimal place.
24	Explain two effects of innovation and technology development on youth employment.