

JC1 H1 Geography
End-of-Year Examination Suggested Answers

Section A

1. A group of 10 students carried out an investigation to look into the needs of the elderly living in urban neighbourhoods, particularly the homeless in Singapore. They decided on the following hypothesis for their investigation:

‘Homelessness is more prevalent amongst the lower income elderly in Singapore because they cannot afford to pay for housing.’

The group decided to do a survey on the homeless elderly around Singapore via a questionnaire that is being translated to the 3 major languages – Mandarin, Malay and Tamil. They have decided to do their survey in different parts of Singapore where they stay. They also plan to do their survey from 10pm to about 12midnight on a Friday, and look for them at void decks and near closed eateries.

Resource 1 shows an infographic of the homeless in Singapore. Resources 2A and 2B show the questionnaire survey (the English version) the students used in their investigation and the selected results of the questionnaire survey. Resource 3 shows how the Singapore government is helping the elderly population in terms of housing.

(a) Explain whether the student’s hypothesis is capable of research. [4]

Award 1 mark for each explanation of why the hypothesis is capable of research, to a maximum of 4m.

Award a maximum of 1 additional mark for further development of each explanation, where applicable.

Possible responses include:

Yes, capable of research.

- **Clearly defined** – identified a specific target group: ***lower income elderly*** [1m]

There are limitations to the research.

- **Not a suitable scale** – whole of Singapore **too big** a scale for 10 students, and doing GI on only one Friday night is **too short a time** with **too little manpower** to yield many samples (Resource 2B shows only 24 samples – too small a sample for a hypothesis that investigates on Singapore). [1m]
- **Not fully researchable** – Although the students might be able to find some homeless elderly in the neighbourhood that they **live in** and are **familiar** with, and be able to **ask some questions** through the questionnaire, [1m] they have not familiarise themselves with secondary data available - like **where the homeless are congregated** (eg. Downtown, Bedok, Kallang), and research those more populated areas instead. [1 additional mark]

(b) With reference to Resources 1 and 2A, explain how the students can best collect data on the homeless elderly in Singapore. [4]

Award 1 mark for each explanation of how students can best collect data on the homeless elderly in Singapore.

Award a maximum of 1 additional mark for further development of each explanation, where applicable.

Possible responses include:

- **Resource 1:** To **determine a sample size** and to **have enough manpower for collecting data** for the area (ie. Singapore) [1m]. If they are limited to 10 students, they should then do a **stratified sampling to obtain representative data of the population** → eg. Collect equal elderly samples from areas with most homeless persons – like Downtown, Bedok and Kallang [1 additional mark].
- **Resource 2A:** Explain to the elderly what the investigation is about first so they will understand the **purpose** [1m] and if they consent to do the questionnaire, the results will be more **meaningful and reliable** [1 additional mark].
- **Resource 2A:** might also be better to have **open-ended interview questions** (eg. why do you choose to stay out here?) [1m] rather than a questionnaire that assumes (eg. Q1 and Q2 - that they stay out because they have no choice or they didn't want to stay with anybody, which is ambiguous) [1 additional mark].

(c) Suggest how the students could minimize potential risk and reduce possible impacts while conducting their investigations on the homeless elderly. [6]

Award 1 mark for each suggestion on how the students could minimize potential risk or to reduce possible impacts.

Award a maximum of 1 additional mark for further development of each suggestion, where applicable.

Award a maximum of 4 marks for suggestion on either minimize potential risk or reduce possible impacts.

Possible responses include:

Minimize Risk:

- **Stranger Danger** – Students should always **go in groups of 2** for safety reasons [1m]. This is because they will be **approaching strangers**, and the investigation is done at **night** in places that are usually hidden (privacy for homeless). Some of these homeless might even **demand a favour** in return for the information they give [1 additional mark].
- **Risks from elements** – Students should be **alert** to safety concerns like **finding shelter** should there be a downpour or lightning occurring at night [1m]. This is because there are not many retail or eateries open to take shelter in at night. They can also check the weather forecast before going out to do their investigation [1 additional mark].

- **Risk from other persons** - They should also be alert to being a **target of unruly behaviour** of drunkards at night [1m]. This is because they are doing the investigation on a **Friday night**, so there and there might be drunkards from pubs who have finished partying and who they might run into during the late hours of the night [1 additional mark].
- **Health safety** – the students could wear masks to prevent transfer of diseases or viruses in the course of their investigations as not all homeless have access to healthcare and some of them might be unwell [1m]. Students can also take precaution to sanitise or wash their hands if they should accidentally touch items that could be contaminated as sometimes the homeless elderly might not have washed their clothes or belongings for a while [1 additional mark].

Reduce Impacts:

- **Reduce anxiety by ensuring confidentiality** – as some of the questions can be quite sensitive and confidential, the students should **ensure** the homeless elderly that their **answers will be kept confidential** [1m]. They can do this by **explaining the purpose of the survey**, which is to collect data for their school project. They can also let the homeless elderly know that they **need not answer questions that they do not feel comfortable** answering [1 additional mark].
- **Noise and disturbance** – they should **make minimal noise** so that residents around will not be disturbed [1m]. This is because the students will be doing their survey late into the night in residential areas (void decks), and noise travels upwards if they are too noisy – so if they need to meet up to consolidate their results, they should do it elsewhere. [1 additional mark].
- **Interrupting the sleep of the elderly** – students **should not wake the homeless elderly up** to do the survey if they are already sleeping [1m]. This is because they elderly could have had a long day and might need to work the next day as well. Moreover, if they are woken up, they might not want to do the survey because they are tired [1 additional mark].

(d) Explain the best way students can present the data they collected from the questionnaire in Resource 2B. [6]

Award 1 mark for each explanation of the best way students can present the data they collected, up to a maximum of 5 marks.

Award a maximum of 1 additional mark for further development of each explanation, where applicable.

Possible responses include:

- **Radial graph/ star graph** → from a bipolar survey → scores of -2 to 2 can be given based on the category [1m] → **very clear** what the **responses** are to the different questions and can **compare across questions**. [1 additional mark]

OR

- **Multiple bar graph/ stacked bar graph** → (can be 6 or 4 bars → to include one for no data also) [1m] → so that it is clear what the response from the homeless elderly who are interviewed are [1 additional mark]
- **Title block** → draw [1m] that is clear → *Results of Questionnaire survey on 24 elderly persons on a single Friday night*
- **Labelled x axis** (count/ number) and **Labelled y axis** → draw (questions and response) [1m]
- **Key** → draw to clearly show what is being represented → either shaded in or coloured [1m]

(e) The students concluded that most of the lower income elderly were homeless because they cannot afford to pay for housing. With reference to all the Resources, evaluate the validity of their conclusion. [10]

Possible responses include:

Somewhat Valid:

- **Resource 2B Qn. 4** shows that 21 out of 24 respondents revealed that they do not have a steady income to pay for monthly rental. This inability to pay for rent is corroborated by Resource 1 which shows that 6 in 10 were working in low paying jobs with a median pay of \$1400. Their low earning power is likely to be due to low education attainment with 35% of the homeless surveyed having only primary school or lower education.
Their conclusions **seems valid** as data collected shows that **12 out of the 16 respondents** in Q3 **disagreed** that the government has provided enough housing for Singaporeans, indicating that the majority of the homeless elderly surveyed actually feel that the government **has not done enough for them** in terms of providing for housing
- However, the **12 samples in Resource 2B Q3** is only half of the 24 surveyed, and even then, **8 did not respond** to this question. This **non-responsive data** is **not representative** of the population of the homeless even in the estates that the students were investigating on. It could at best be the **feelings** of the homeless who have the impression that the government has not done enough for them or perhaps **did not know** what help or resources were available for them.

Not Valid:

- According to **Resource 1**, although the students **sampled areas where they lived** (meaning that they were **familiar with their surroundings** and probably know where some of the homeless elderly can be found) the data collected **might not have given them a good sample** of the homeless or the homeless elderly, as the sample size is rather small, and **focused only on the estates** that the students live in.
Their results **might not be as valid/ reliable** compared to the one done in **Resource 1** by **NUS**. This is because according to **Resource 1**, **the homeless**

were congregated in certain areas of Singapore, like the Downtown area, Kallang, Bedok and areas near the south of Singapore. Maybe the reasons for the homeless elderly who are staying in the **Downtown area** could be **convenience to workplace** rather than not being able to afford to pay for housing per se.

- Moreover in relation to **Resource 1**, <30% of those interviewed said they had rented an HDB public rental flat or brought an HDB flat and hence has a roof above their heads. In addition, 37% were homeless due to family conflicts or family break-ups **rather than financial constraints as stated in the hypothesis**.
- **Resource 2A** – the questions in the questionnaire were **not clear and precise**. **Q1 does not give a clear indication** why the homeless elderly stayed out. It just states that they have no choice. It might not be due to finances, but maybe strained relationships with family. This is supported in Resource 1 which shows that 37% were homeless due to family conflicts or family break-ups rather than financial constraints as stated in the hypothesis.
- in **Resource 2B**, 20 indicated that they have no choice, but was not specific on the reasons as there was no option for them to elaborate because of the closed-ended nature of the questionnaire. Furthermore, **Q2** is a good reflection of possible reasons (eg. not wanting to stay with others they did not know) other than finances that the elderly are homeless.

Resource 2B also shows that there were many questions in the students' survey that yielded "**No data**", showing that their conclusions could be **inaccurate** as many did not respond. This is especially so in **Q3** where they were asked about their **housing needs** and what they feel the government has done with 8 not responding to this question.

This could be due to **fear/ insecurity** on the part of the homeless, unsure of the purpose of the survey or what the information would be used for, thus unwilling to give sensitive information. The question on approximate income level might also have made the respondents more wary and suspicious, thus reducing their willingness to give information or accurate information.

- **Resource 3** – in the secondary data provided in Resource 3, the cost of renting a 1 room HDB **seems affordable** for those who earn very little, especially if they are 1st timers (less than 5% of their pay), so the conclusions that the students draw are actually **not representative** of the population. Also, those who really cannot afford can turn to other forms of help, like **transitional shelters, welfare homes or religious sites**. This **discrepancy** and **inaccuracy** in the data collected by the students to those by **seedly.sg** could be due to the fact that the students only managed to conduct a **small sample**, reducing the **accuracy** and **reliability** of the investigation.

THUS, it can be seen that the student's conclusions are **not as reliable and accurate** for analysis given the gaps in both the **methodology** of the investigation and the **data that is collected**.

Levels marked using Generic Level Descriptors for H1 fieldwork evaluative questions.

Levels	Marks	Generic Level Descriptors for H1 Fieldwork Evaluative Question
3	9–10	Evaluation is analytical and coherent. Response addresses the question and demonstrates good knowledge and understanding of fieldwork methods relevant to the given context.
2	5–8	Evaluation is mostly analytical and coherent. Weaker responses in this level will have evaluation that is broadly analytical and generally coherent. Response generally addresses the question and demonstrates adequate knowledge and understanding of fieldwork methods relevant to the given context.
1	1–4	Response is descriptive with limited or no analysis and evaluation. Response is fragmented and lacks clarity. Response lacks focus on the question and may be largely irrelevant to it. Response shows basic knowledge and understanding of fieldwork methods. Response has some, though limited, relevance to the given context.
0	0	No creditworthy response

Section B

2. In 2003, the Anacostia Waterfront Framework Plan (AWI Plan) set a visionary and ambitious agenda for the revitalization of the Anacostia waterfront as a world-class destination and the center of 21st century Washington, DC. One of the cornerstones of AWI is to transform Capitol Riverfront from a place concentrated with poverty, deteriorated housing conditions and an African American population, into a dynamic waterfront neighbourhood and workplace.

Resource 4 shows the before and after photos of the changes that have taken place along Third Street SE and the Yards Park. Resource 5 shows selected census data of Capitol Riverfront in 2000 and 2017. Resource 6 shows a land-use function map of Capitol Riverfront in 2017. Resource 7 shows AWI's goals for the environment.

a) Describe the features in Resource 4 that suggest urban renewal has taken place. [4]

Award 1 mark for each description of a feature in Resource 4 that suggest urban renewal has taken place.

Award a maximum of 1 additional mark for further development of each description, where applicable.

Possible responses include:

- One of the most apparent signs of urban renewal is **upgraded infrastructure** that includes repaved streets, improved sidewalks, and modern street lighting. [1]
- The presence of **new high-rise buildings with modern design** can indicate urban renewal. [1] The use of full-length glass walls and large windows in building facades can transmit more natural light and enhance the ambience. [1 additional mark]
- The presence of a **lush greenery wall and more trees planted** along the sidewalks and roads softens the harshness of concrete and buildings. [1] Well-maintained green spaces create a more attractive and inviting environment, making the area more pleasant for residents and visitors. [1 additional mark]
- Renewed urban areas also include **enhanced public spaces using various water features such as dancing fountain, waterfall and canal basin** that allows visitors to play with the water. [1] Such a recreational space is especially popular for leisurely activities where visitors can relax, enjoy the water, and cool off summer heat. [1 additional mark]

b) Cite relevant data from Resource 5 to show the demographic changes to the residents living in Capitol Riverfront. [3]

Award 1 mark for each description using data from Resource 5 on the demographic changes to the residents living in Capitol Riverfront.

Award a maximum of 1 additional mark for further development of each description, where applicable.

Possible responses include:

- The **age distribution** of residents living in Capitol Riverfront has **shifted down** with the highest percentage of 43.8% at age 35-64 in 2000 to the highest percentage of 40.8% at age 18-34 in 2017. [1] More young adults and professionals, often in their 20s and 30s, may have moved to Capitol Riverfront to become a more prominent demographic group. [1 additional mark]
 - **White Americans** living in Capitol Riverfront **more than doubled** from 24.4% in 2000 to 51.7% in 2017. [1]
 - In contrast, there is a **significant drop** of 28.1% in the percentage of **Black Americans** living here from 67.6% in 2000 to 39.5% in 2017. [1]
 - On top of that, the **demographic makeup** of Capitol Riverfront became a **little more diverse** with a slight increase in Native Americans (0.3% to 0.5%) and Asian/Pacific Islanders (2.0% to 3.9%) from 2000 to 2017. [1]
- c) **With reference to Resource 6, suggest reasons for the changes in the percentage of black residents shown in Resource 5. [5]**

Award 1 mark for each suggested reason for the changes in the percentage of black residents shown in Resource 5.

Award a maximum of 1 additional mark for further development of each suggested reason, where applicable.

Possible responses include:

- **Rising housing costs:** As Capitol Riverfront underwent redevelopment and became more attractive to higher-income residents, it likely became **unaffordable** for many Black Americans who were living in the neighbourhood. [1] The presence of **numerous pipeline residential areas** in Resource 6 will lead to an increase in property values and rents. The rising housing costs can force long-term residents, particularly those with lower incomes, to move elsewhere. [1 additional mark]
- **Redevelopment policies:** The government's plan to revitalize the Anacostia waterfront into a dynamic neighbourhood and workplace could have favoured the **development of luxury apartments, commercial activities and hotels** that disproportionately impacted the Black residents. [1] Besides new residential areas, many areas demarcated for future development, pipeline commercial areas and hotel are planned in Capitol Riverfront which may lead to **rising cost of living and reshape the neighbourhood**. [1 additional mark]
- **Changing demographics:** As Capitol Riverfront attracts more affluent and predominantly white residents, it can create an environment where Black Americans **feel less welcome or comfortable**, leading to their decision to move elsewhere. [1] As more and more young, white and rich Americans move into the area, the **cultural dynamics** and amenities changes, perhaps making the Blacks **feel out of place**. [1 additional mark]
- **Employment competition:** Capitol Riverfront's revitalization may have brought improved employment opportunities, but these may not have been equally accessible to all residents. Black Americans who **did not have access to the same opportunities** may have been compelled to leave in search of better

prospects. [1] The size of the **Navy Yard** in Resource 6 suggests that it is a major employment hub. The job opportunities created could have **attracted many young white Americans to move in** and push out the older Black residents. [1 additional mark]

d) With reference to Resource 4 and 6, explain two factors that have enhanced the liveability of Capitol Riverfront. [4]

Award 1 mark for each explanation of a factor that has enhanced the liveability of Capitol Riverfront.

Award a maximum of 1 additional mark for further development of each explanation, where applicable.

Award a maximum of 2 marks for explanation of one factor only.

Possible responses include:

- **Economic: Real estate development**, including both residential and commercial properties, is an economic factor that has made Capitol Riverfront an attractive place to live and work. [1] The construction of modern apartment complexes and office buildings seen in Resource 4 and 6 has not only expanded the housing options available, but also attracted **businesses** to the area, fostering job creation and economic growth for residents. [1 additional mark]
- **Social**: A social factor that has enhanced the liveability of Capitol Riverfront is the improved amenities, such as **public/community spaces** for interaction and recreational facilities that can contribute to a positive and enriching living experience. [1] Developers have invested in creating amenities such as the Yards Park, Anacostia Riverwalk trail and stadiums seen in Resource 6, which have improved the overall **quality of life** for residents. These amenities contribute to a sense of community and provide opportunities for recreation and socialization. [1 additional mark]
- **Environmental: Clean waterways and green spaces** are the environmental factors that not only enhance the aesthetic appeal of Capitol Riverfront but also contribute to a **healthier and more sustainable living environment**. [1] Green landscaping and the people frolicking at the canal basin shown in Resource 4 have allowed people to enjoy the riverfront lifestyle, fostering a sense of place and community. [1 additional mark]

e) With reference to Resource 7, describe the actions that can be undertaken by the government to meet AWI's goals for the environment. [6]

Award 1 mark for each description of an action that can be undertaken by the government to meet AWI's goals for the environment.

Award a maximum of 1 additional mark for further development of each description, where applicable.

Possible responses include:

- **Provide a river suitable for swimming:**
 - Implement and enforce strict **regulations to control pollution sources**, including industrial discharges, stormwater runoff, and sewage overflows. **Invest in water treatment infrastructure** to ensure that the river meets water quality standards for swimming. [1]
 - Establish regular **water quality monitoring programs** and provide **real-time information to the public about the safety of swimming** in the river. Issue advisories or closings when water quality does not meet safety standards. [1]
- **Restore riparian function of the watershed in both urban and natural environments:**
 - Enforce regulations that require the **preservation or restoration of riparian buffer zones along the riverbanks**. These zones can help filter pollutants and provide habitat for wildlife. [1]
 - Promote the **planting of native vegetation** in both urban and natural areas to stabilize soil, improve water quality, and enhance biodiversity. [1]
 - Restore or create **wetlands** within the watershed to act as natural filters and flood control mechanisms. [1]
- **Implement green guidelines and standards to require sustainable development:**
 - Update **zoning codes and land use regulations** to encourage sustainable development practices, such as green building standards, certification, and low-impact development techniques. [1]
 - Provide **financial incentives or tax breaks** for developers who incorporate sustainable design and green infrastructure into their projects. [1]
 - Mandate or incentivize the **installation of green roofs on new buildings** to reduce stormwater runoff and provide habitat. [1]
- **Increase all types of maritime activity:**
 - Invest in **infrastructure for boating and water sports facilities**, such as marinas, boat ramps, and kayak launches. [1]
 - Support and promote **events like regattas, boat races, and waterfront festivals** to attract maritime activity and engage the community. [1]
 - Improve access to the waterfront for maritime activities through **better transportation links and parking facilities**. [1]
- **Enhance environmental education on the river's watershed:**
 - Develop and fund **environmental education programs in schools** that focus on the Anacostia River watershed, including field trips, curriculum integration, and outdoor learning experiences. [1]
 - Organize **community workshops, seminars, and informational campaigns** to raise awareness about the river's ecological importance and ways residents can contribute to its preservation. [1]
 - Establish or support **nature centers and visitor centers** along the river that provide educational exhibits, guided tours, and interactive programs. [1]

Section C

3. 'The liveability of a city is largely influenced by social factors.' Evaluate this statement. [13]

Possible Approaches:

Candidates could approach the question by making a judgement on whether the liveability of a city is largely affected by social factors or others, such as economic factors and environmental factors. Candidates could analyse the factors in terms of spatial scale, temporal scale, or the involvement of key stakeholders. Candidates could also evaluate the subjective nature of urban liveability, and that people with different characteristics could view the city in very different ways.

Candidates could also approach the question by making a judgement on whether social factors have a larger influence in some contexts than others through a consideration of two or more case studies. Candidates could evaluate the relative significance of the different factors in each case study (such as high- and low-income cities) and analyse the interplay between the factors.

Levels marked using Generic Level Descriptors for H1 essays

4. 'Strategies to create liveable cities for women can only achieve superficial success.' Evaluate this statement. [13]

Possible Approaches:

Candidates could approach the question by making a judgement on whether the strategies to create liveable cities for women can only achieve superficial success through a consideration of their strengths and limitations as well as whether the strategies can resolve the root cause of issues faced by women living in the cities. Candidates could also analyse the spatial and temporal extent of the outcomes of the strategies to determine if their success(s) is superficial or not.

Candidates could also approach the question by making a judgement on whether the same strategies can only achieve superficial success in some contexts yet achieving real success in other contexts, through a consideration of two or more case studies. Candidates could evaluate whether the strategies in each case achieved the intended aims. Candidates could also analyse the contextual factors such as the scale of the issues, the political will of the authorities, the resources available and the general sentiments of the public, which may have contributed to the variations in success between these places. Candidates could also analyse the difficulties in creating liveable cities for women in each case.

Levels marked using Generic Level Descriptors for H1 essays

Levels	Marks	Generic Level Descriptors for H1 Essays
4	11–13	Evaluation is analytical and coherent. Response is mostly well-supported by relevant material, including the appropriate use of examples. Response features accurate geographical knowledge and reflects adequate understanding of the subject content relevant to the question.
3	8–10	Evaluation is broadly analytical and generally coherent. Response is moderately well-supported by relevant material, including some appropriate use of examples. Response features accurate geographical knowledge and reflects adequate understanding of the subject content relevant to the question.
2	5–7	Response is largely descriptive with limited analysis and evaluation. Response is partly coherent and may lack clarity in parts. Response is poorly supported by relevant materials, including the limited use of examples. Response features inaccurate geographical knowledge and poor understanding of the subject content relevant to the question.
1	1–4	Response is descriptive with no analysis or evaluation. Response is fragmented and lacks clarity. Response consists of unsupported assertions. Response features largely inaccurate geographical knowledge and a lack of understanding of the subject content relevant to the question.
0	0	No creditworthy response