Cambridge Assessment International Education

Cambridge IGCSE™

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER			

0276327726

ENVIRONMENTAL MANAGEMENT **0680/13**

Paper 1 Theory **October/November 2022**

1 hour 45 minutes

You must answer on the question paper.

No additional materials are needed.

INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen or correction fluid.
- Do **not** write on any bar codes.
- You may use a calculator.
- You should show all your working and use appropriate units.

INFORMATION

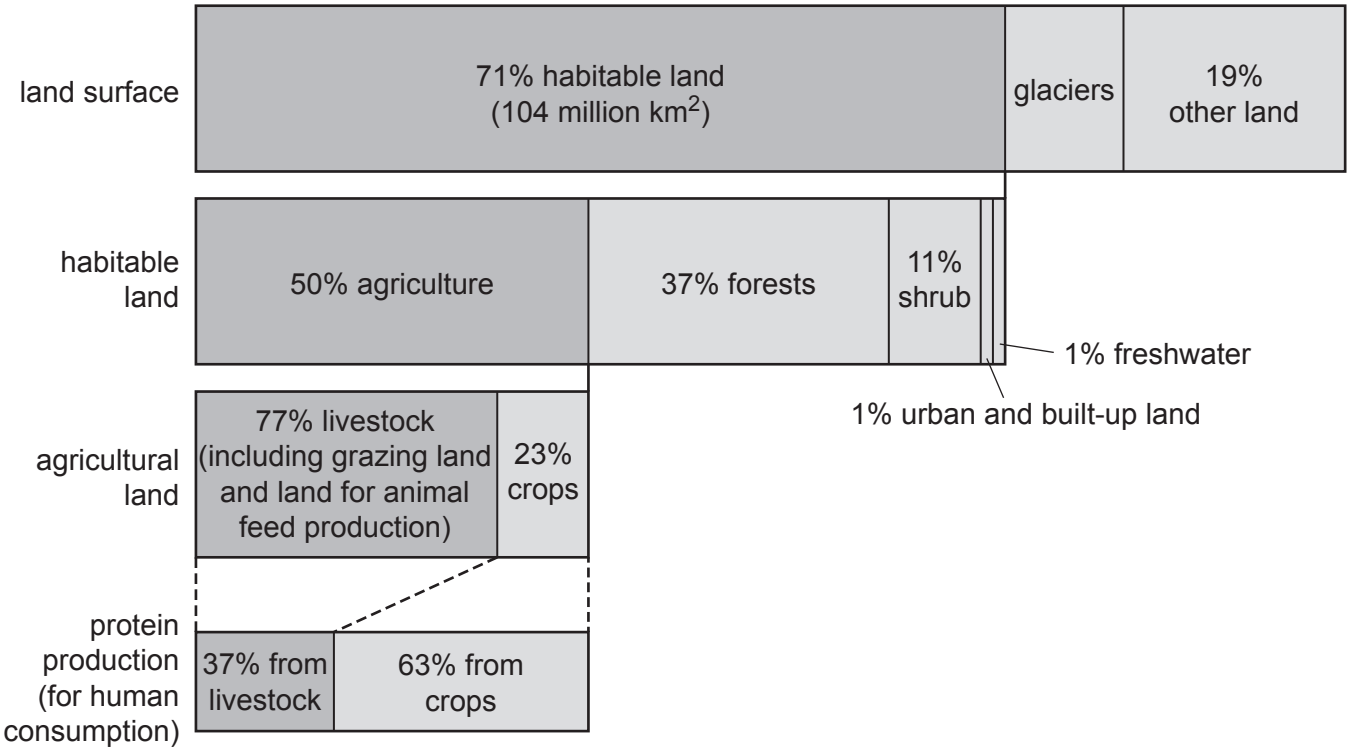
- The total mark for this paper is 80.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **20** pages. Any blank pages are indicated.

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Section A

1 The bar chart shows information about global land use and protein produced for human consumption.



(a) (i) Calculate the percentage of land surface covered by glaciers.

..... % [1]

(ii) Calculate the total area of habitable land used for agriculture.

..... million km^2 [1]

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(b) Compare using livestock for protein production with growing crops for protein production.

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..... [3]

(c) State **two** ways to increase the yield of crops.

1 .....

2 .....
[2]

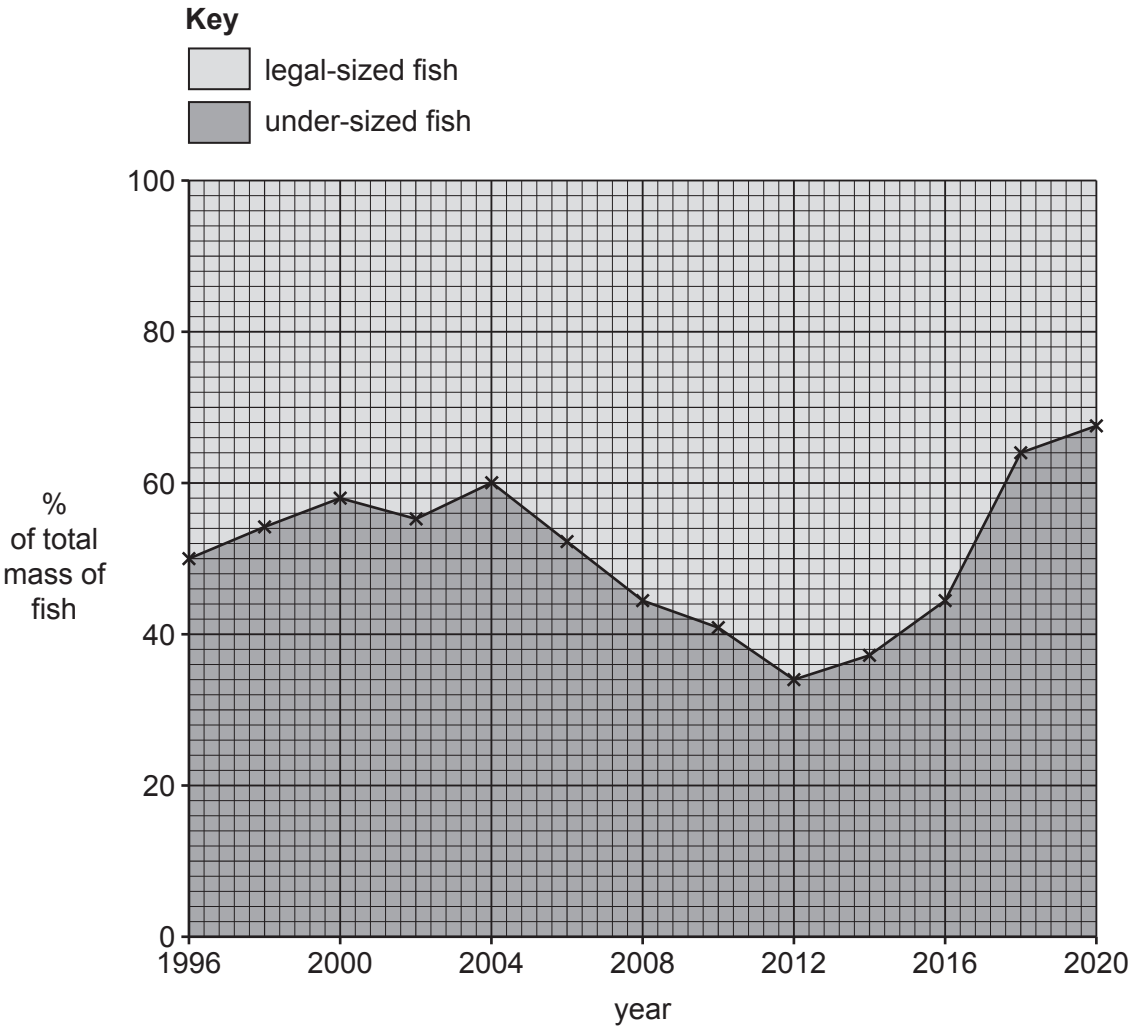
[Total: 7]

2 A scientist monitored the size of fish caught in a fishing area between 1996 and 2020.

The scientist classified the fish caught into two categories:

- legal-sized (large enough to be legally caught)
- under-sized (too small to be legally caught).

The results are shown in the graph.



(a) (i) Describe the trends in the size of fish caught between 1996 and 2020.

.....

.....

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..... [3]

(ii) The scientist concludes that this fishing area is being overfished.

Use the information to explain how the scientist reaches this conclusion.

.....

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..... [2]

(b) Describe ways to prevent under-sized fish being caught when fishing.

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..... [2]

[Total: 7]

3 The photograph shows work being done to reduce the risk of flooding.



(a) Suggest how the work being done in the photograph reduces the risk of flooding.

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..... [2]

(b) Describe **four** other methods to reduce the impacts of flooding in the area.

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..... [4]

[Total: 6]

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Section B

4 The photograph shows Jiangcungou, the largest landfill waste site in China.



The table shows information about this landfill site.

Jiangcungou landfill site, China
Opening date: 1994
Predicted life: 50 years
Area: 670 000 m^2
Average depth: 150 m
Expected use: 2500 tonnes per day

(a) (i) Calculate the volume of the Jiangcungou landfill site.

..... m^3 [2]

(ii) The landfill site closed 25 years earlier than expected as it was already full.

State the year the landfill site closed.

..... [1]

(iii) In one year, the actual use of the landfill site was four times greater than expected.

Calculate the actual use of the landfill site in tonnes per day for this year.

..... tonnes per day [1]

(b) The owners of the Jiangcungou landfill site plan to restore the site so that it can be used by the public as a park.

Describe how the site can be restored.

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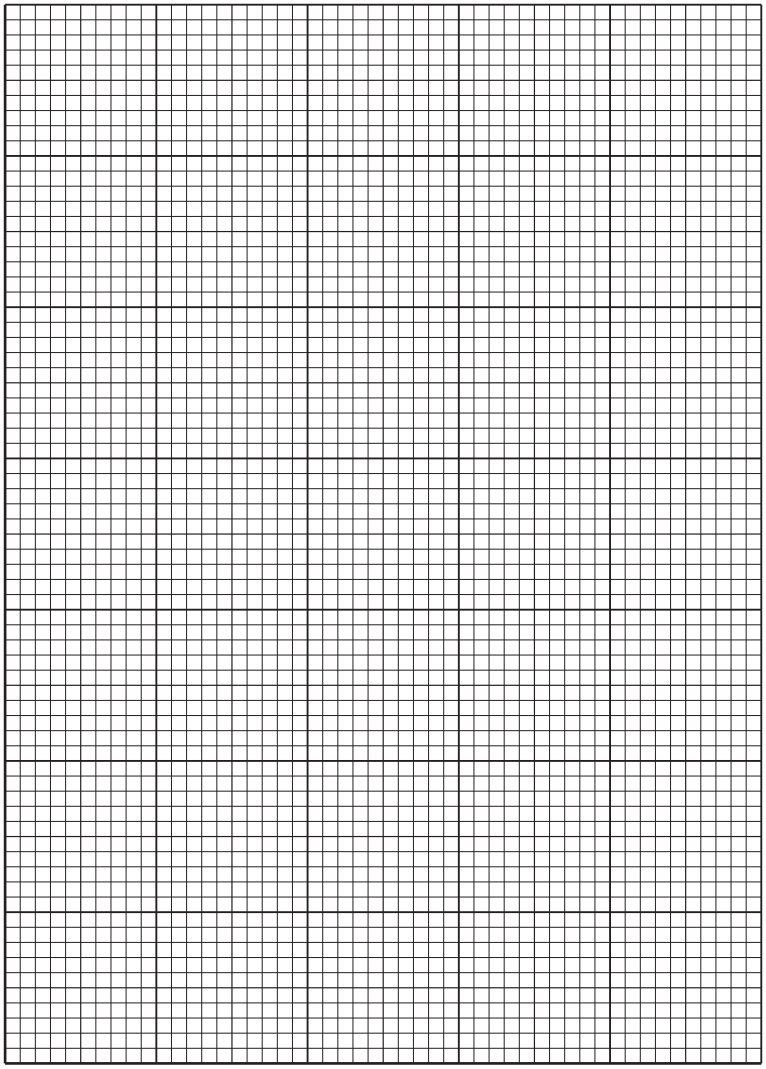
.....

..... [3]

(c) The table shows methods of waste disposal in China.

method of waste disposal	percentage of waste disposed
landfill	55
incineration	40
other	5

On the grid, plot a bar chart of the information in the table.



[3]

(d) Some more economically developed countries (MEDCs) export waste to other countries.

Give reasons why this method of waste management may be damaging to the global environment.

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..... [3]

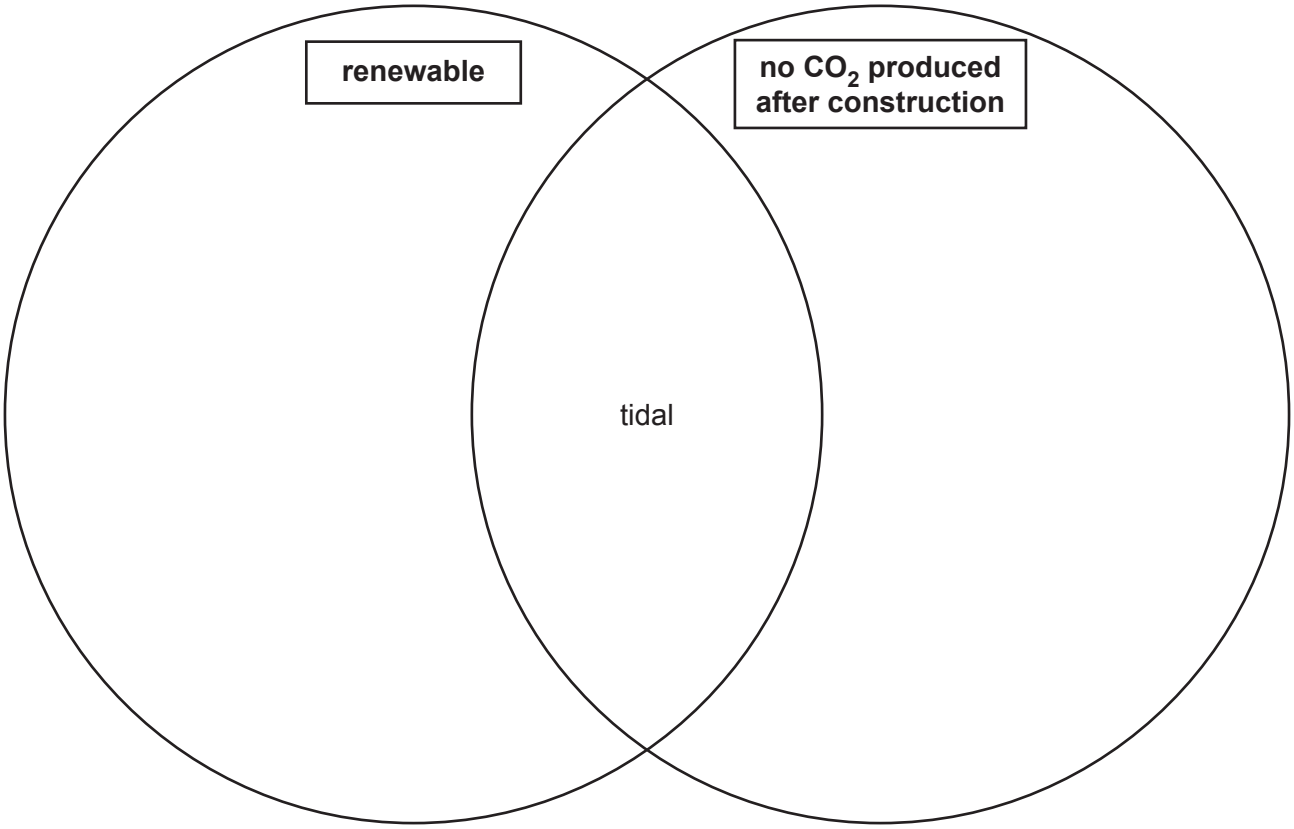
[Total: 13]

5 **(a)** Some energy resources are listed.

biofuels	**tidal**
geothermal	**wave**
nuclear	**wind**
solar	

(i) Complete the diagram to classify the energy resources in the list.

One has been completed for you.



[3]

(ii) State the name of **one** other renewable energy resource.

..... [1]

(b) Fracking is a method of extracting oil and gas from the ground.

Suggest reasons why some people disagree with using fracking to extract oil and gas.

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..... [3]

(c) Describe methods to reduce the amount of oil used to fuel motor vehicles.

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..... [3]

[Total: 10]

6 A student reads a newspaper article from 2019 about a tree-planting scheme in Ethiopia.

> **National tree-planting scheme**
>
> 350 million trees have been planted in a single day in Ethiopia, according to a government minister. This is part of a national scheme to plant 4 billion trees in 90 days.
>
> The government is encouraging every citizen to plant at least 40 trees. Public offices have been closed to allow workers to take part in the scheme.
>
> The scheme aims to reduce the effects of deforestation, climate change and drought in Ethiopia. Ethiopia's forest coverage was only 4% in 2018 compared with 34% in 1918.

(a) (i) Calculate the average number of trees that need to be planted each day to meet the target.

..... million trees [1]

(ii) Suggest reasons why people have cleared forests in Ethiopia.

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..... [3]

(iii) Suggest reasons why some of the trees planted may fail to grow.

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(b) Explain how deforestation impacts the water cycle.

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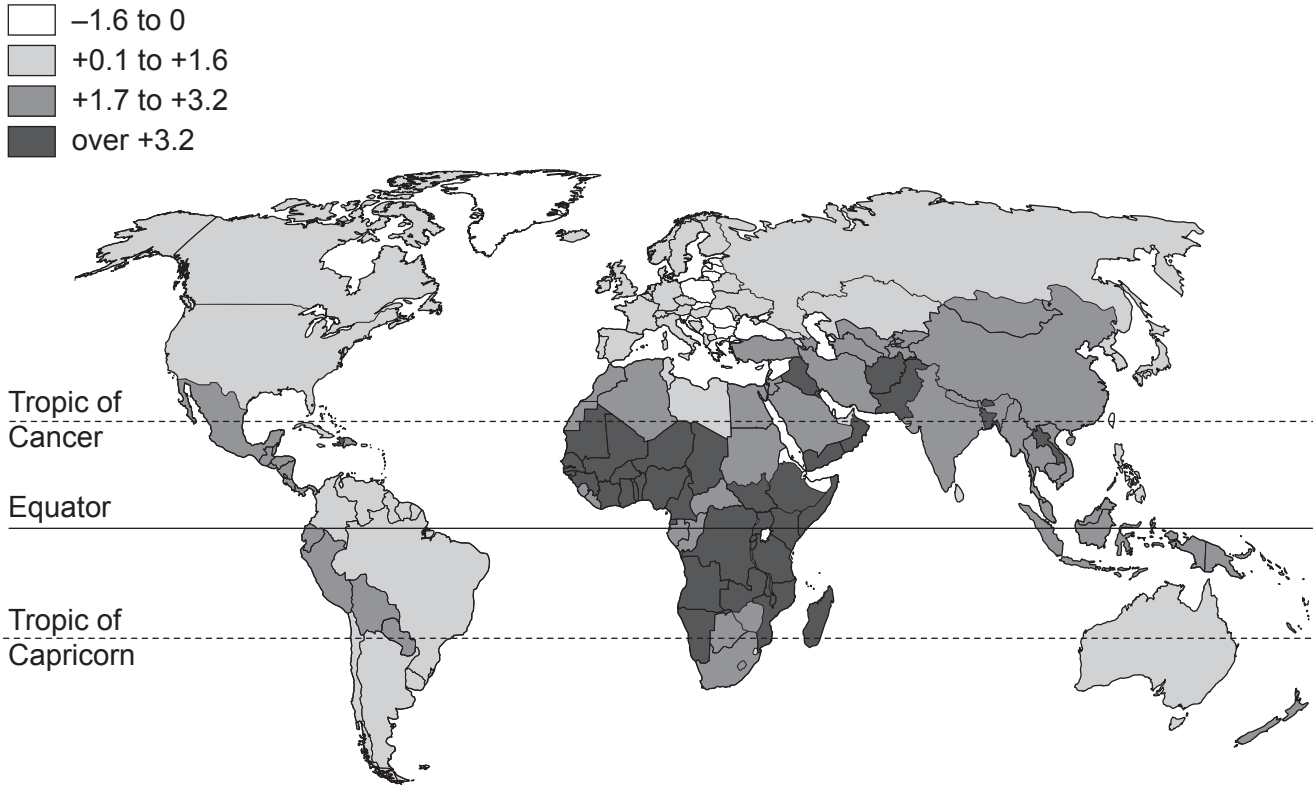
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..... [4]

[Total: 12]

7 **(a)** The map shows the annual change in urban population of countries for a recent year.



(i) Describe the changes in urban population shown on the map.

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.....

.....

.....

..... [4]

(ii) State **four** reasons why people choose to migrate into urban areas.

1 .....

2 .....

3 .....

4 .....

[4]

(iii) Suggest problems an urban area experiences when there is a sudden increase in population.

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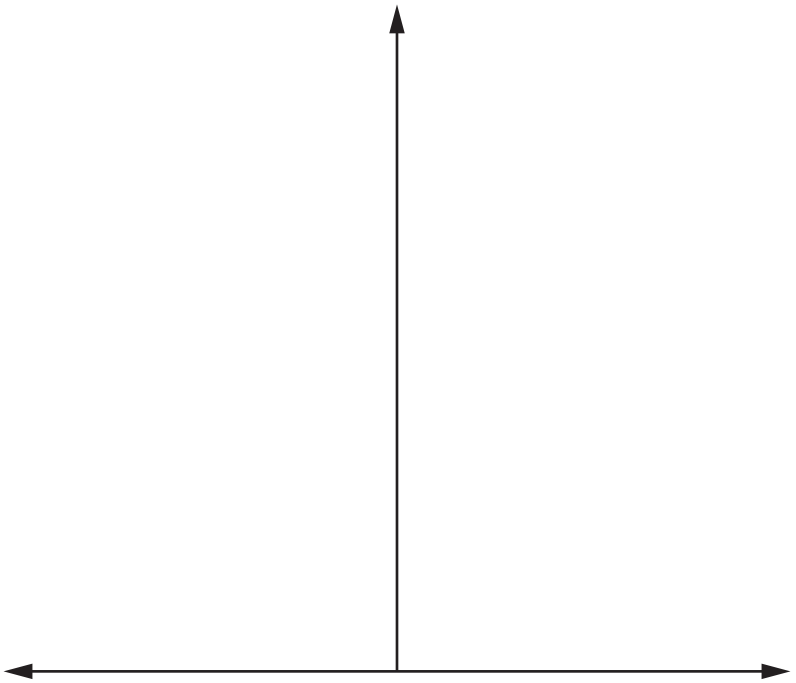
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(b) The population of a country is increasing rapidly.

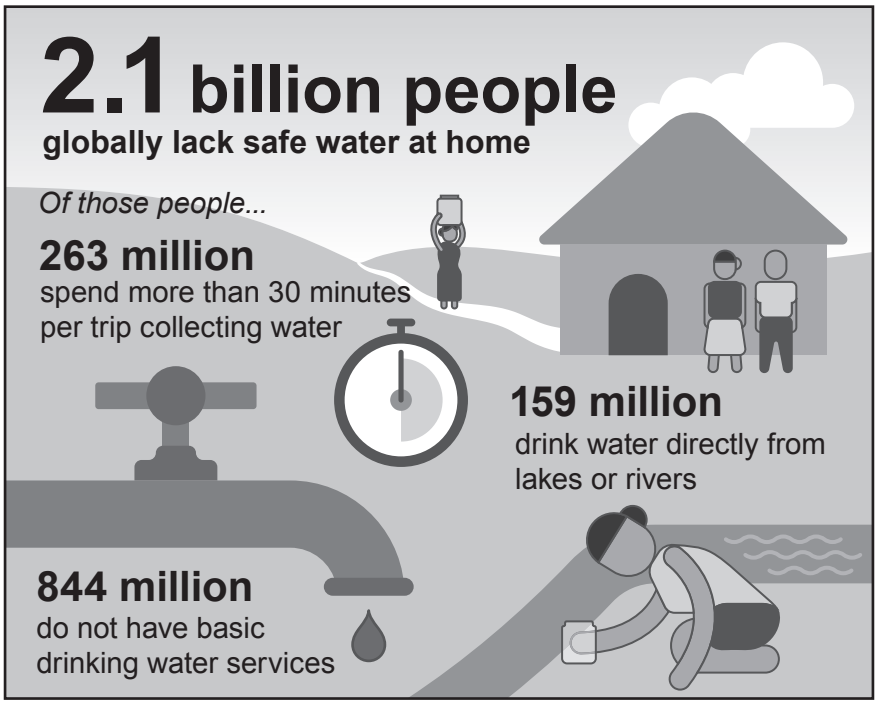
On the axes, sketch the population pyramid for the country.



[4]

[Total: 15]

8 The poster shows information about the number of people without access to safe water in 2015.



(a) (i) In 2015, the world population was 7.3 billion.

Calculate the percentage of the world population without safe water at home in 2015.

..... % [1]

(ii) Drinking water directly from lakes or rivers can cause bacterial diseases such as cholera or typhoid.

Describe **two** other risks to human health of drinking water directly from lakes or rivers.

.....

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..... [2]

(iii) State **one** method that can be used to make water potable.

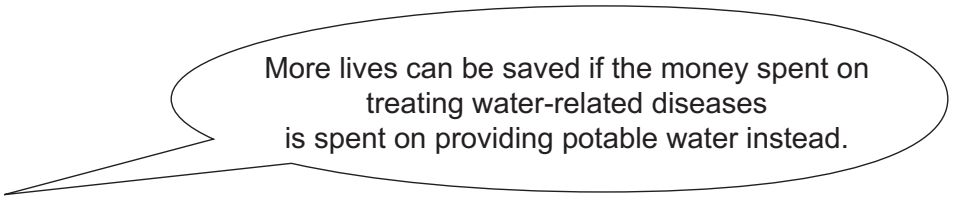
.....

..... [1]

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(b) A scientist is concerned about the number of deaths that occur each year due to people drinking water from unclean water sources.

The scientist says:



To what extent do you agree with this statement? Give reasons for your answer.

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..... [6]

[Total: 10]

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