Cambridge Assessment International Education

Cambridge O Level

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

2357545680

GEOGRAPHY **2230/02**

Paper 2 Geographical Skills **May/June 2021**

1 hour 45 minutes

You must answer on the question paper.

You will need: Insert (enclosed)
1:25 000 survey map (enclosed)
Calculator
Plain paper
Protractor
Ruler

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.
- Sketch maps and diagrams should be drawn whenever they serve to illustrate the answer.
- If additional space is needed, you should use the lined pages at the end of this booklet; the question number or numbers must be clearly shown.

INFORMATION

- The total mark for this paper is 60.
- The number of marks for each question or part question is shown in brackets [ ].
- The insert contains additional resources referred to in the questions.

This document has **16** pages.

Section A: Mapwork skills

1 Study the map extract of Voss, a tourist area in Norway, northern Europe. The scale is 1:25 000. The heights are in metres. The contour interval is 20 metres.

(a) (i) Name the airport in grid square 6325.

..... [1]

(ii) Suggest **two** reasons why this is a good location for an airport.

1 .....

2 .....
[2]

(b) (i) Identify **two** tourist facilities in Voss (grid squares 5823 and 5824).

1 .....

2 .....
[2]

(ii) **Complete the table below** by drawing an arrow between the tourist activity and the correct map location. One has been completed for you.

tourist activity	map location
downhill skiing	5726
fishing	5923
rafting	5725
cycling	6325
hang gliding	6224

[4]

(iii) Give a six-figure grid reference for the picnic area on the shore of Lake Vangsvatnet.

..... [1]

(c) Study the winter ski area of the map extract shown in Fig. 1.1.

Winter ski area

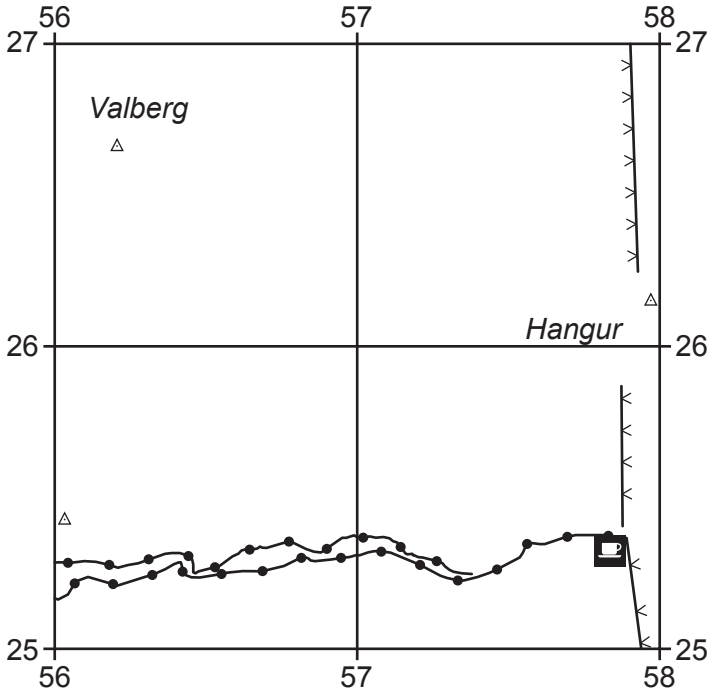


Fig. 1.1

(i) State the total area covered by the grid squares in Fig. 1.1. Give your answer in square kilometres (km^2).

..... [1]

(ii) How do skiers travel from Voss to the café at 578253?

..... [1]

(iii) What is the straight-line distance from the trigonometric point at 562266 to the trigonometric point at 579261? Give your answer in kilometres.

..... [1]

(iv) What compass direction is the trigonometric point at 562266 from the trigonometric point at 579261?

..... [1]

(v) Calculate the difference in height between the two trigonometric points in **(iii)** and **(iv)**. The heights are shown in metres on this map extract.

..... [1]

(d) Study the Sonvesåsen area of the map extract shown in Fig. 1.2.

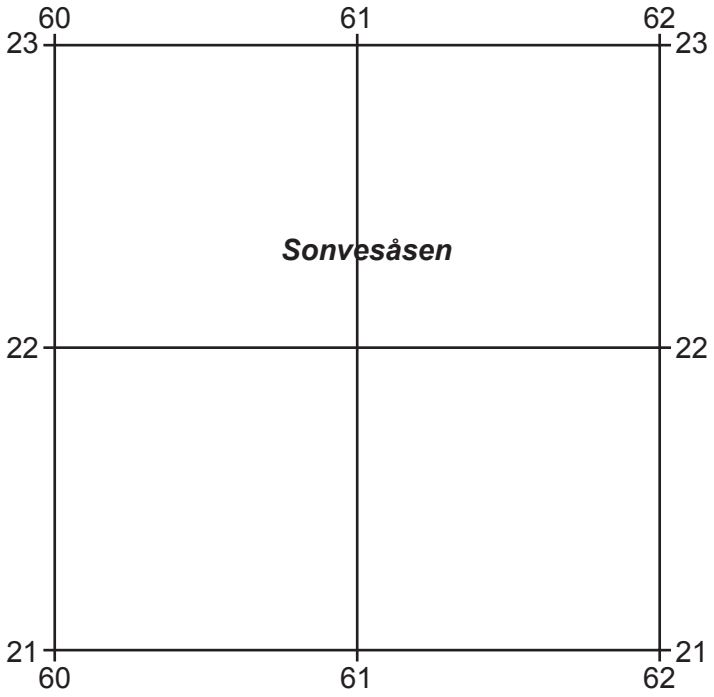


Fig. 1.2

Using the map extract, complete Table 1.1 to describe the following features:

Table 1.1

feature	description
vegetation and land cover	....
relief	....
drainage	....

[5]

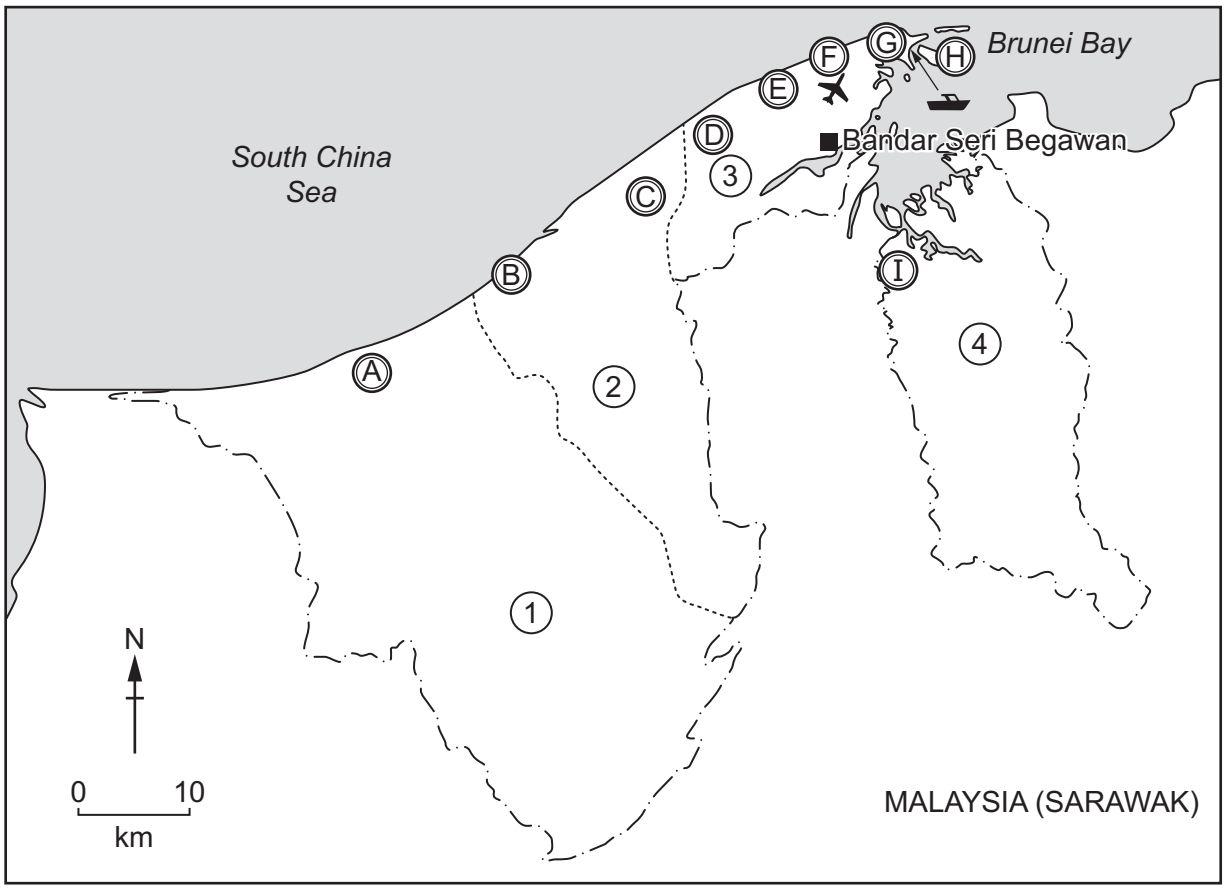
[Total: 20]

TURN OVER FOR QUESTION 2

Section B: Geographical skills

2 Study Fig. 2.1, which shows the location of industrial sites in Brunei.

The location of industrial sites in Brunei



Key

— · — International boundary

--------- District boundary

■ Capital City

Brunei International Airport

Muara Port

(1) Belait district

(2) Tutong district

(3) Brunei-Muara district

(4) Temburong district

(A) Sungai Liang Industrial Park (oil & gas)

(B) Telisai Industrial Park (mixed industries)

(C) Bukit Panggal Industrial Park (energy intensive)

(D) Bio Innovation Corridor (halal-related industries)

(E) Digital Junction (ICT & high tech)

(F) Anggerek Desa Tech Park (ICT & high tech)

(G) Salambigar Industrial Park (light industries)

(H) Pulau Muara Besar (PMB) (oil & gas)

(I) Batu Apoi Industrial Park (light industries)

Fig. 2.1

(a) Using Fig. 2.1, describe the distribution of industrial sites in Brunei.

.....

.....

.....

.....

.....

..... [3]

(b) Study Fig. 2.2 (Insert), a photograph which shows the Brunei Methanol Company (BMC) at Sungai Liang Industrial Park.

Describe the site and situation of the Brunei Methanol Company (BMC) shown in Fig. 2.2.

.....

.....

.....

.....

.....

..... [3]

[Turn over

(c) Study Table 2.1, which shows information about the Brunei Methanol Company (BMC).

Table 2.1

Information about the Brunei Methanol Company (BMC)

location	Sungai Liang Industrial Park (see Fig. 2.1)
raw material	offshore natural gas
market	NE Asia, SE Asia, India and the USA
land	16 hectares
labour	190 workers
capital	$450 million to construct

Using Fig. 2.1, Fig. 2.2 (Insert) and Table 2.1, explain why the Sungai Liang Industrial Park is a good location for the Brunei Methanol Company (BMC).

.....

.....

.....

.....

.....

.....

.....

..... [3]

(d) State **one** reason why Brunei needs to diversify its economy.

.....

..... [1]

[Total: 10]

3 Study Fig. 3.1, which shows the percentage of urban population living in informal settlements in seven Asian countries.

Percentage of urban population living in informal settlements

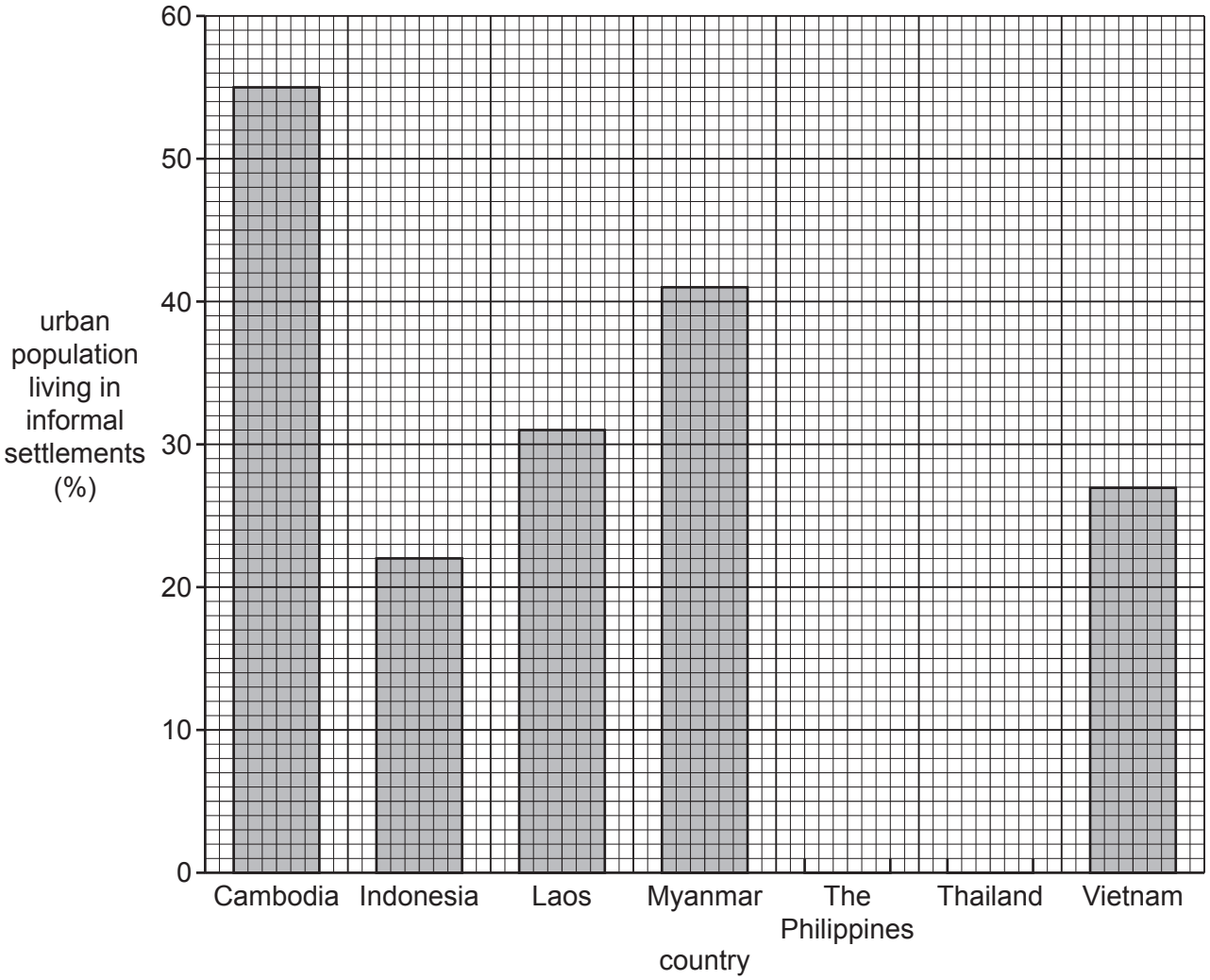


Fig. 3.1

(a) (i) **Complete the graph on Fig. 3.1 above** using the data below. [2]

country	urban population living in informal settlements (%)
The Philippines	38
Thailand	25

(ii) Which country shown in Fig. 3.1 has more than half of its urban population living in informal settlements?

..... [1]

(b) Study Fig. 3.2 (Insert), a photograph which shows an informal housing area in Jakarta, Indonesia.

Describe the housing shown in Fig. 3.2.

.....

.....

.....

.....

.....

..... [3]

(c) Study Fig. 3.3, which shows the percentage of the population in Indonesia living in rural and urban areas in 2000 and 2018.

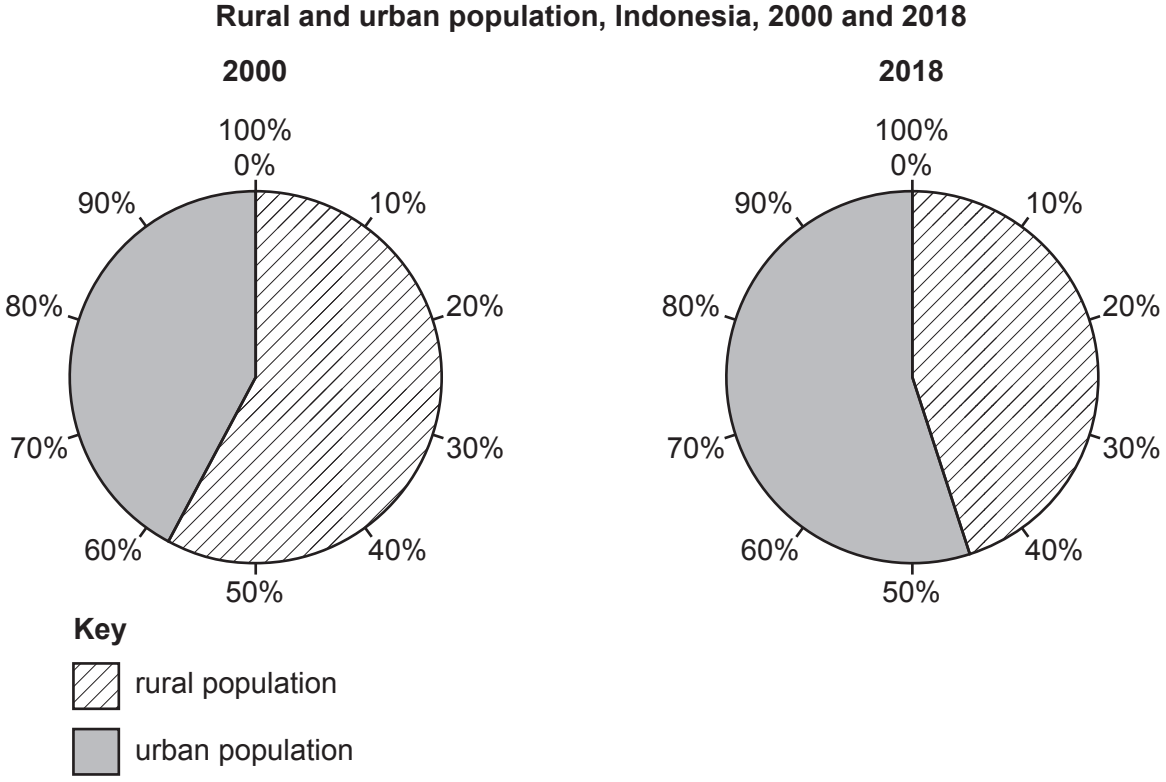


Fig. 3.3

Describe the change in the urban population in Indonesia between 2000 and 2018.

.....

.....

.....

..... [2]

(d) State **two** problems, other than the growth of informal settlements, that are caused by urban growth.

1 .....

2 .....
[2]

[Total: 10]

TURN OVER FOR QUESTION 4

Section C: Geographical investigation

4 Students from the island of Mauritius did fieldwork in Quatre Bornes, a large linear town. They investigated how the amount of traffic and number of pedestrians changed with increasing distance from the Central Business District (CBD).

The students agreed to investigate the following hypotheses:

Hypothesis 1: *The amount of traffic decreases away from the centre of the CBD*.

Hypothesis 2: *Pedestrian numbers decrease away from the centre of the CBD*.

(a) (i) To investigate their hypotheses the students had to first decide where the centre of the CBD was. Suggest **two** features they could use to identify the central point of the CBD.

1 .....

2 .....

[2]

(ii) The students decided to do traffic and pedestrian counts every 200 metres along a 2.4 kilometre transect going away from the centre of the CBD (Site 1) towards the edge of the town (Site 12). The locations of the 12 sites are shown in Fig. 4.1 (Insert). At each of the 12 sites there was a group of students collecting data.

What is the name of the sampling method they used?

Circle your answer below:

random opportunistic systematic stratified

[1]

(iii) Before they went to do their fieldwork, the students did a pilot study at a site close to their school.

Suggest **two** advantages of doing a pilot study.

1 .....

.....

2 .....

.....

[2]

(b) To investigate **Hypothesis 1:** *The amount of traffic decreases away from the centre of the CBD* the students did 5-minute traffic counts at 09:00, 10:00 and 11:00. The students then calculated the average results for the three traffic counts at each site. The results for sites 1, 4, 8 and 12 are shown in Table 4.1 (Insert).

(i) Use the data in Table 4.1 (Insert) to **complete the bar graph for Site 8 on Fig. 4.2 below**.

Average results of traffic counts

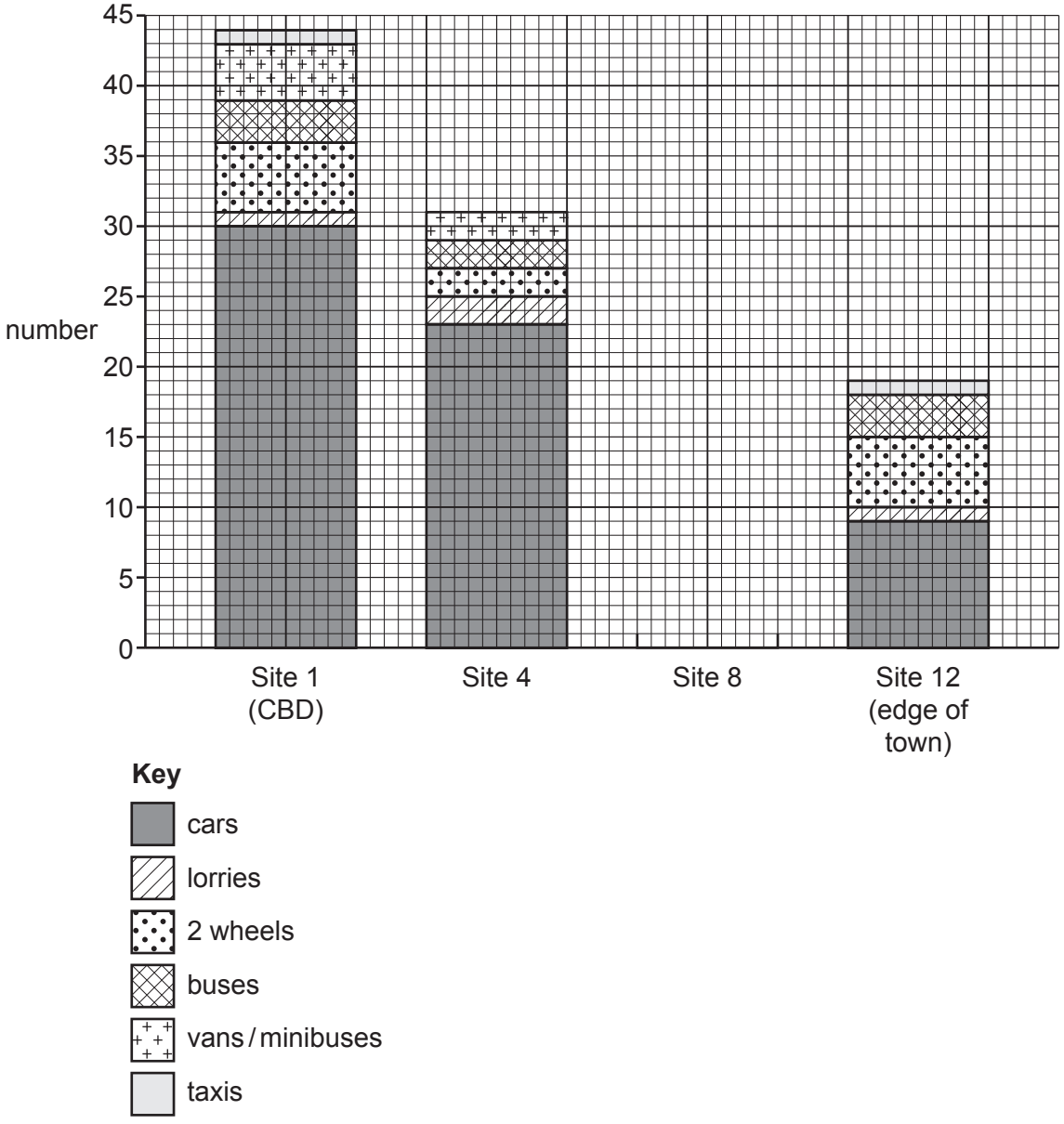


Fig. 4.2

[3]

(ii) What conclusion might the students make for **Hypothesis 1:** *The amount of traffic decreases away from the centre of the CBD*? Support your answer with data from Table 4.1 (Insert) and Fig. 4.2.

.....

.....

.....

.....

.....

..... [3]

(iii) Apart from the amount of traffic, Fig. 4.2 also shows the type of transport. What was the most common type of transport shown in Fig. 4.2?

..... [1]

(c) When the students had completed each traffic count they did a pedestrian count at the same site. They carried out their pedestrian counts at 09:15, 10:15 and 11:15. The results for sites 1, 4, 8 and 12 are shown in Table 4.2 (Insert).

(i) In the space below, draw a recording sheet which the students could have used to do the pedestrian counts.

[3]

(ii) Study Table 4.2 (Insert), which shows the results of the pedestrian counts. **Complete the bar graph for Site 8 on Fig. 4.3 below**, using the results in Table 4.2 (Insert).

Results of pedestrian counts

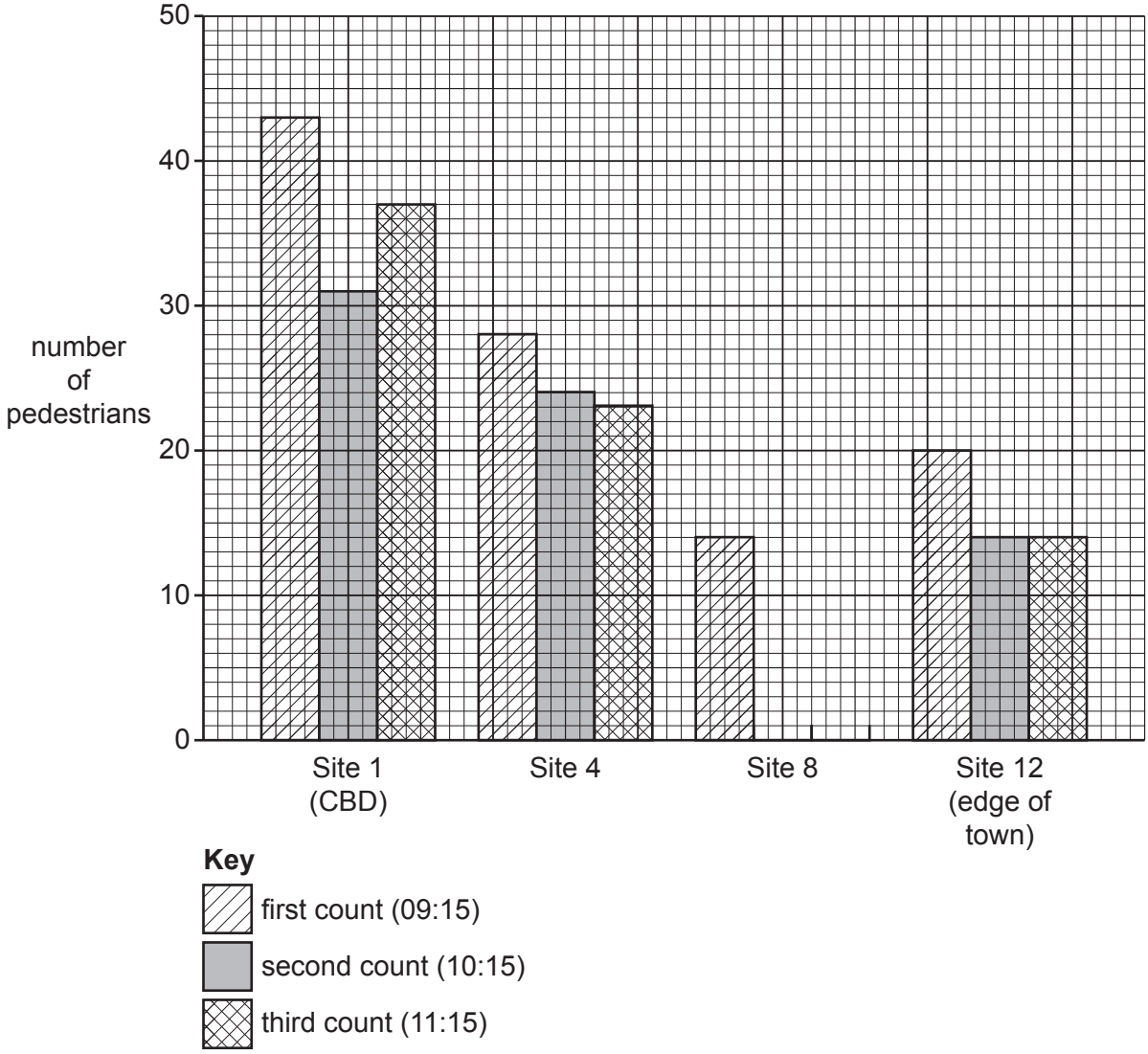


Fig. 4.3

[2]

(iii) The students decided that **Hypothesis 2:** *Pedestrian numbers decrease away from the centre of the CBD* was accepted. Use evidence from Table 4.2 (Insert) and Fig. 4.3 to support this decision.

.....

.....

.....

.....

.....

..... [3]

[Total: 20]

Additional page

If you use the following page to complete the answer to any question, the question number must be clearly shown.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....