Centre Number	Candidate Number	Candidate Name

NAMIBIA SENIOR SECONDARY CERTIFICATE

GEOGRAPHY ORDINARY LEVEL 4332/3

PAPER 3 2 hours

Marks 60 **2020**

Additional Materials: Non-programmable calculator
Protractor
Ruler

INSTRUCTIONS AND INFORMATION TO CANDIDATES

- Write your Centre Number, Candidate Number and Name in the spaces at the top of this page.
- Write your answers and working in the spaces provided on the Question Paper.
- Write in dark blue or black pen.
- You may use a soft pencil for any rough work, diagrams or graphs.
- Do not use correction fluid.
- Do not write in the margin *For Examiner's Use.*

- Answer **all** the questions.

- All working must be clearly shown.
- Sketch maps and diagrams should be drawn whenever they serve to illustrate an answer.

- The number of marks is given in brackets [ ] at the end of each question or part question.
- You may use a non-programmable calculator.

For Examiner's Use		
1		
2		
Total		

Marker		
Checker		

This document consists of **10** printed pages and **2** blank pages.

Republic of Namibia

MINISTRY OF EDUCATION, ARTS AND CULTURE

1 Geography students made a rain gauge and measured the rainfall and wind direction at their school every day at 10:00 for a period of 14 days. The students compared their data with measurements recorded using a standardised rain gauge at the local airport during the same time period. The airport is 20 km away from the school. It is closer to the sea and located on higher land than the school.

The following hypothesis was tested:

Rainfall is greater closer to the sea and when the winds are blowing from the south.

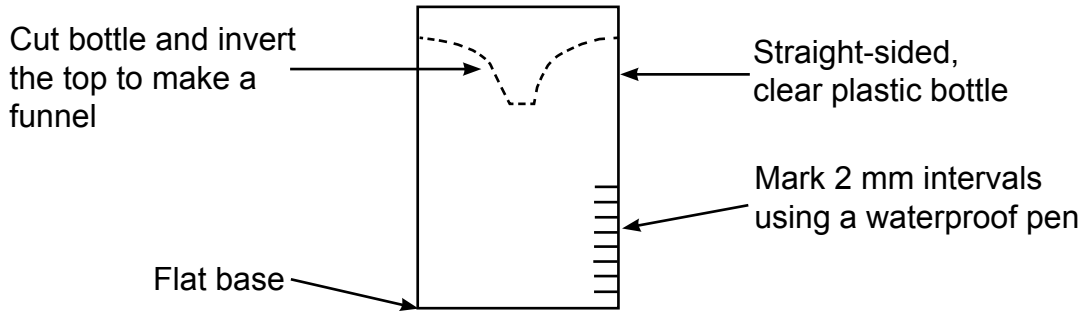

Fig. 1

(a) The students used the instructions in Fig. 1 to make a rain gauge from a plastic bottle.

(i) Study Fig. 1 and explain the importance of

(aa) using a waterproof pen.

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..... [1]

(bb) using a straight-sided bottle.

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..... [1]

(ii) Suggest **two** factors that students must consider when deciding where to place the rain gauge to collect accurate rainfall readings.

1 .....

.....

2 .....

..... [2]

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(b) The students' results are shown in Table 1.
A dispersion graph which was used to display the data is shown in Fig. 2.

Table 1

	Results at school location		Results at airport location	
Day	**Rainfall (mm)**	**Wind Direction**	**Rainfall (mm)**	**Wind Direction**
1	1	N	1	N
2	0	N	0.5	N
3	0	E	0	NE
4	1	NE	2	NE
5	0	N	0.5	NE
6	0	-	0	-
7	8	S	11	S
8	9	SW	12	S
9	0	NE	1	NE
10	0	-	0	-
11	3	W	5	SW
12	1	S	4	S
13	3	SW	6	SW
14	4	SW	6	SW
Total	30		49	
Daily Average	2.14 mm			

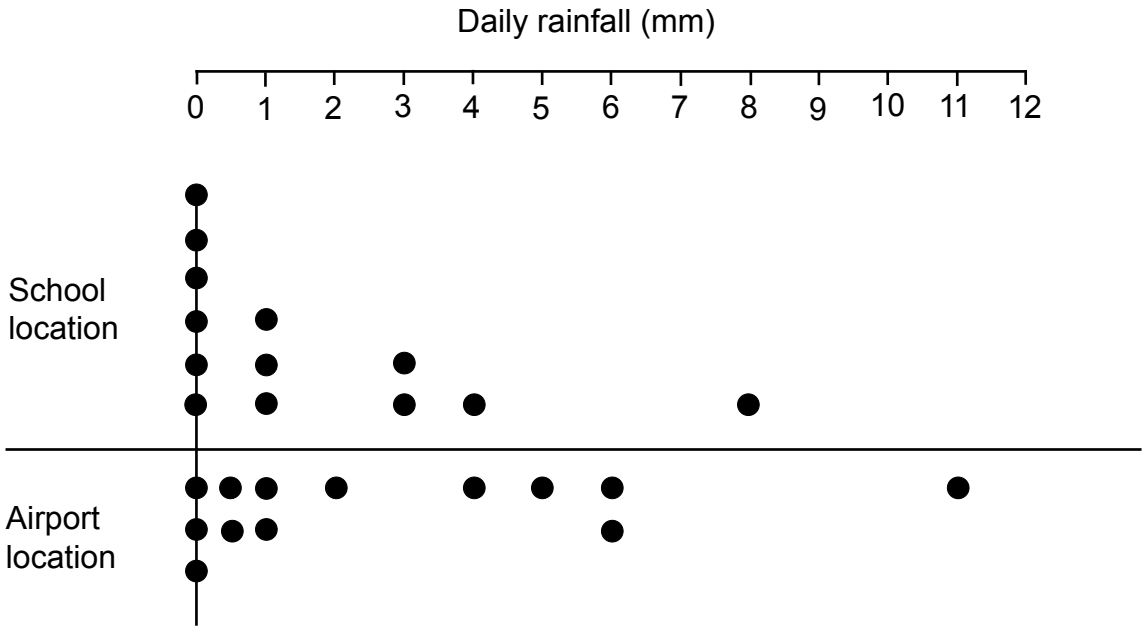

Fig. 2

(i) Complete the dispersion graph (Fig. 2) for day 8 using the results of both locations shown in Table 1. [2]

(ii) Describe the distribution of rainfall at the school during the 14 days shown in Table 1.

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.....

..... [2]

(iii) Calculate the average daily rainfall figure for the airport location. Write this figure in Table 1. [1]

(iv) Compare the rainfall data for the two locations.

.....

.....

.....

..... [2]

(v) Re-read the information about the locations of the school and airport.

Explain how each of the following factors may have influenced the amounts of rainfall at the school and the airport.

Altitude .....

.....

.....

..... [2]

Distance from the sea .....

.....

.....

..... [2]

(c) (i) The wind direction was measured using a wind vane similar to the one shown in Fig. 3.

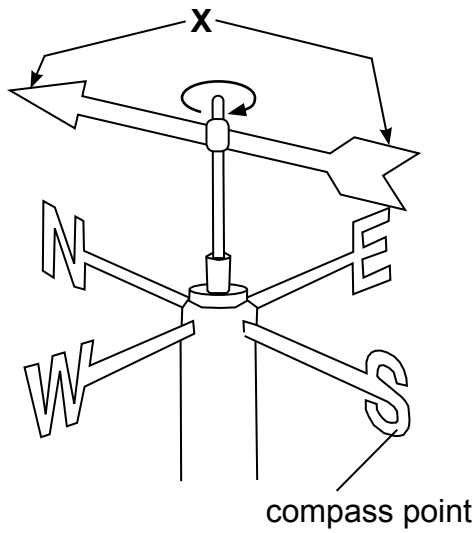

Fig. 3

Explain how the part of the instrument labelled **X** works to show wind direction.

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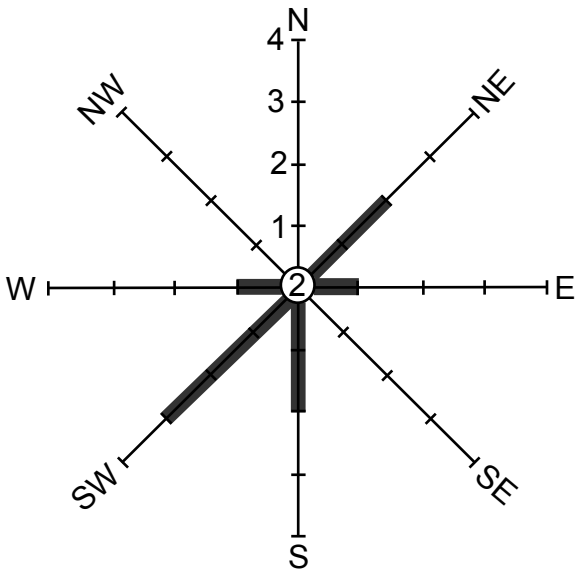
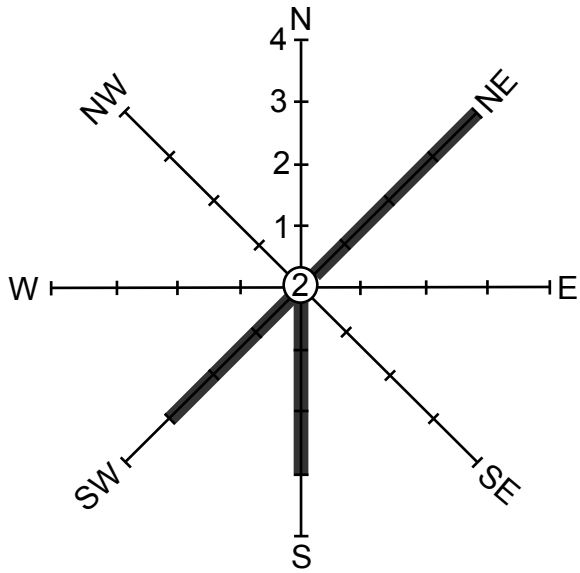
..... [2]

(ii) The wind rose graphs (Fig. 4) display the wind direction measurement.

Using the data from Table 1, complete the graphs for the number of days with northerly winds at both locations. [3]



Wind direction at school location (Number of days)



Wind direction at airport location (Number of days)

Fig. 4

For Examiner's Use

(d) Study Table 1 again and suggest the direction of the sea from the airport.

Give **three** reasons for your answer.

Direction ..... [1]

Reasons .....

1 .....

.....

2 .....

.....

3 .....

..... [3]

(e) Write a conclusion to the investigation. It should include reference to

(i) acceptance or rejection of the hypothesis with data evidence to support the decision.

.....

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.....

..... [2]

(ii) disadvantages of the methods of data collection and problems of comparing different rain gauge results.

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..... [2]

(iii) possible student error.

.....

.....

.....

..... [2]

[30]

For Examiner's Use

2 Geography students studied the characteristics of the Central Business District (CBD) of a town. A map of the CBD is shown on Fig. 5.

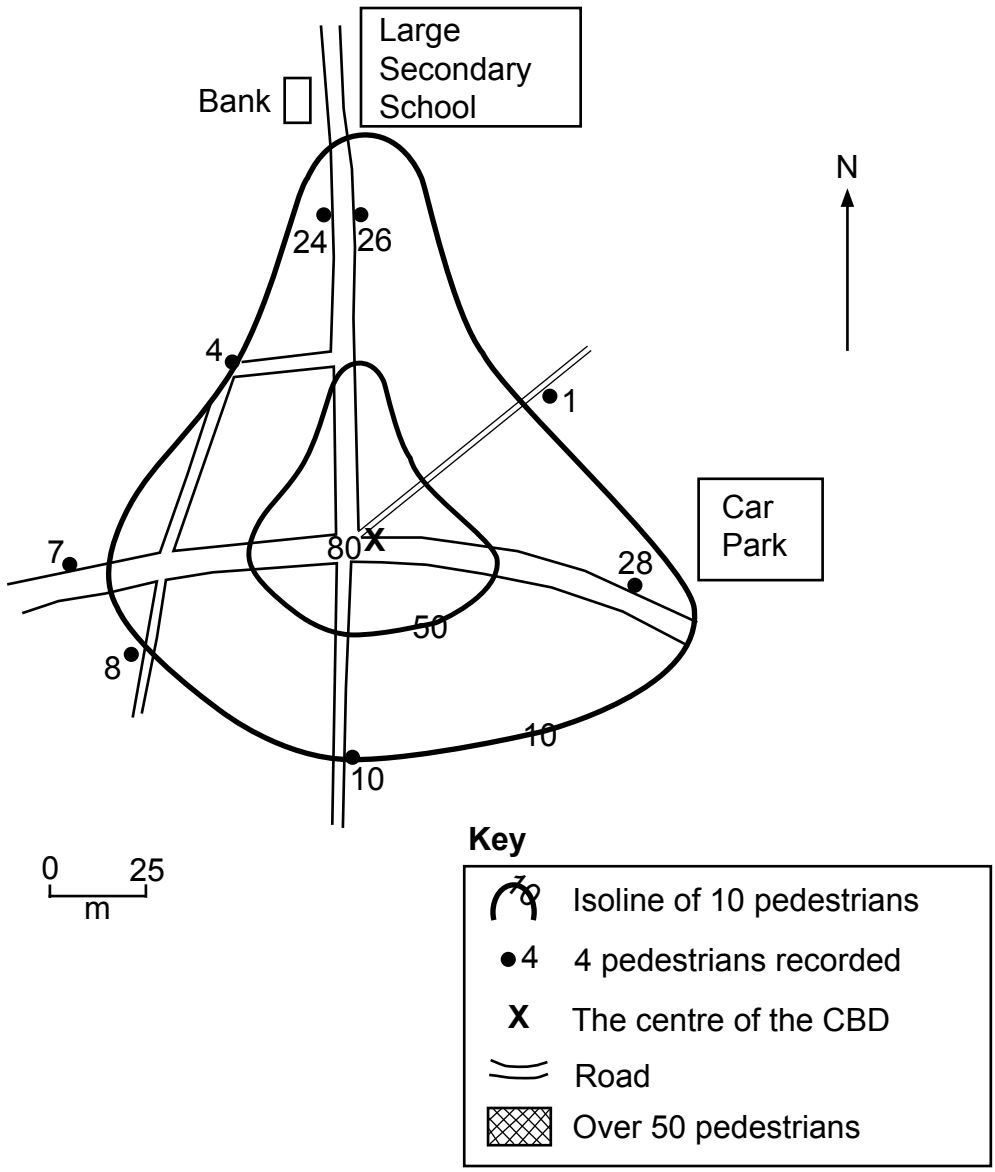

Fig. 5

The hypothesis investigated was:

The number of pedestrians decreases away from the centre of the CBD.

The students decided to count pedestrians and then interview shop owners in the town.

The point marked X on Fig. 5 was identified as the centre of the CBD.

(a) State **four** characteristics which may be used to recognise the central area of a CBD.

1 .....

.....

2 .....

.....

3 .....

.....

4 .....

..... [4]

(b) Students walked for 100 paces in different road directions from **X**. Students then counted for ten minutes from 10:00.

(i) Describe **one** advantage and **one** disadvantage of this method of selecting the sites for recording pedestrians.

Advantage .....

.....

Disadvantage .....

..... [2]

(ii) Give **two** pieces of information which should be recorded, apart from the results, on every recording sheet by each student.

1 .....

2 ..... [2]

(c) The results of the pedestrian count are shown as isolines on the map (Fig. 5).

(i) On Fig. 5, draw the isoline to show 30 pedestrians. [4]

(ii) Using the key provided, shade in the area on the map recording more than 50 pedestrians. [2]

(d) **(i)** How does the number of pedestrians change the further the distance from **X**?

Give **two** details.

1 .....

.....

2 .....

..... [2]

(ii) Using information from the map, suggest **four** reasons for these changes.

1 .....

.....

2 .....

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3 .....

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4 .....

..... [4]

(e) Students decided to interview shop owners to find out what the busiest time of the day in the CBD was. From the 60 shops in the central area, 20 shops were selected, some selling convenience goods and some selling comparison goods.

(i) What are comparison goods?

.....

..... [1]

(ii) Name an example of a comparison good.

..... [1]

(iii) Suggest how the shops could have been selected in order to ask a representative sample of shop owners.

.....

.....

.....

..... [2]

(f) The results of the question that the shop owners were asked are shown in Table 2.

Table 2

Question: Which is the busiest time of the day in this shop?				
08:00 - 09:59	10:00 - 11:59	12:00 - 13:59	14:00 - 15:59	16:00 - 17:59
1	5	10	4	0

Explain why the results of the question may not be reliable.

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..... [2]

(g) Write a conclusion to this investigation. You should refer to the hypothesis and suggest ways to improve the investigation.

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..... [4]

[30]

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