Surname		Other Names	
Centre Number			Candidate Number				
Candidate Signature									

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Free-Standing Mathematics Qualification
January 2006
Foundation Level

ASSESSMENT and QUALIFICATIONS ALLIANCE

MAKING SENSE OF DATA **6983/2**
Unit 3

Friday 3 February 2006 9.00 am to 10.00 am

For this paper you must have:
- a calculator
- a clean copy of the Data Sheet (enclosed)
- a protractor
- a ruler

Time allowed: 1 hour

Instructions
- Use blue or black ink or ball-point pen. Pencil should only be used for drawing.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- Answer the questions in the spaces provided.
- Do all rough work in this book. Cross through any work you do not want marked.
- You may **not** refer to the copy of the Data Sheet that was available prior to this examination. A clean copy is enclosed for your use.

Information
- The maximum mark for this paper is 40.
- The marks for questions are shown in brackets.
- You are expected to use a calculator where appropriate.

Advice
- In all calculations, show clearly how you work out your answer.

For Examiner's Use			
Number	Mark	Number	Mark
1		5	
2		6	
3		7	
4			
Total (Column 1) →			
Total (Column 2) →			
TOTAL			
Examiner's Initials			

SECTION A

Answer **all** questions in the spaces provided.

Use **Goals scored** *on page 2 of the Data Sheet.*

1 The goals scored against the top ten clubs were:

14, 15, 17, 23, 23, 29, 22, 18, 25, 33

For these top ten clubs, find:

(a) the greatest number of goals against;

Answer .....
(1 mark)

(b) the least number of goals against;

Answer .....
(1 mark)

(c) the range in the number of goals against;

.....

Answer .....
(1 mark)

(d) the modal number of goals against;

Answer .....
(1 mark)

(e) the median number of goals against;

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Answer .....
(3 marks)

(f) the mean number of goals against.

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Answer .....
(3 marks)

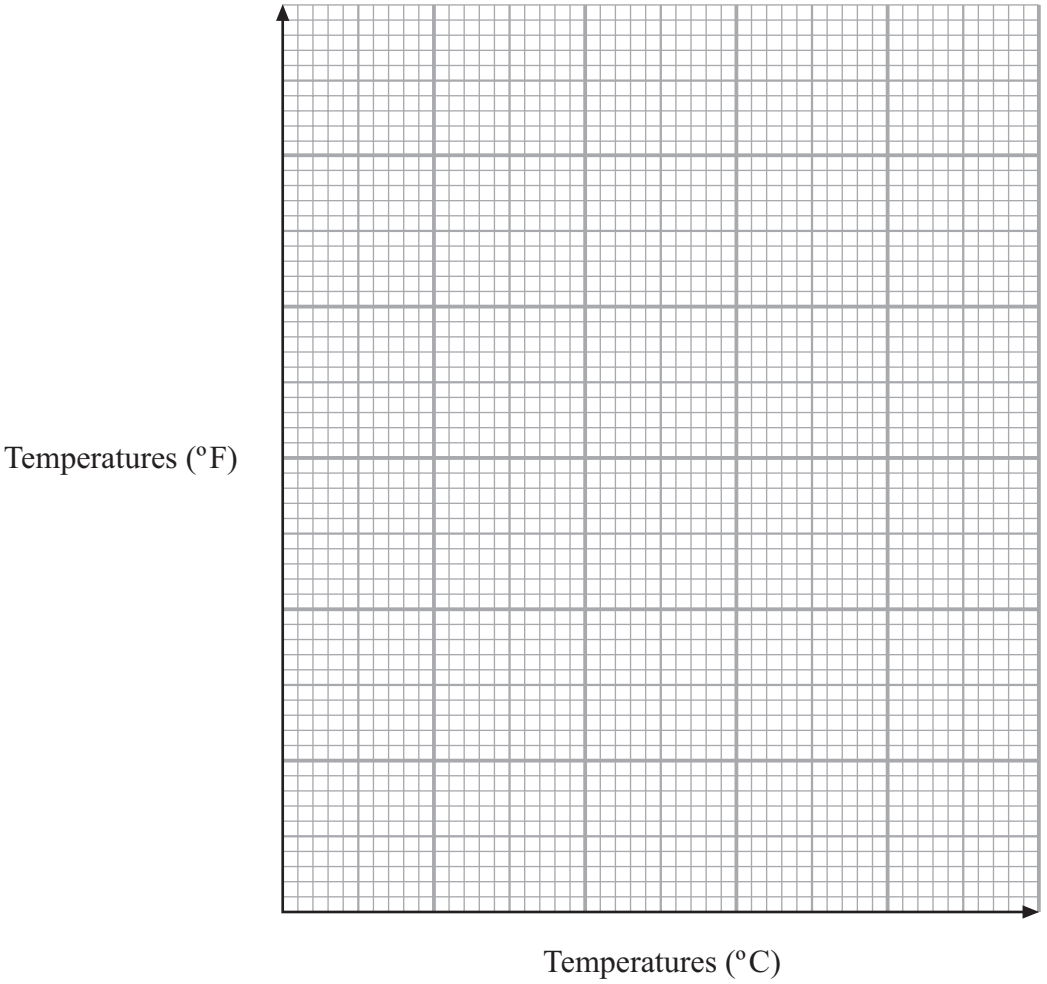
10

SECTION B

Answer **all** questions in the spaces provided.

Use **Temperatures** *on page 3 of the Data Sheet.*

2 (a) Plot the data pairs on the grid below.



(3 marks)

(b) Explain how you can deduce from the graph that the temperatures in ºC and ºF are not directly proportional.

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(1 mark)

4

SECTION C

Answer **all** questions in the spaces provided.

Use **Sports survey** *on page 3 of the Data Sheet.*

3 The data are reproduced below.

Sport	Tally	Frequency
Athletics	|||	
Cricket	|	
Football	~~||||~~ |||	
Hockey	||	
Rugby	|||	
Swimming	||||	
Tennis	|	

Another three students entered the social centre and their answers were swimming, football, football.

(a) Complete the tally chart. *(2 marks)*

(b) How would you check that Zoe has recorded all twenty-five responses on the tally chart?

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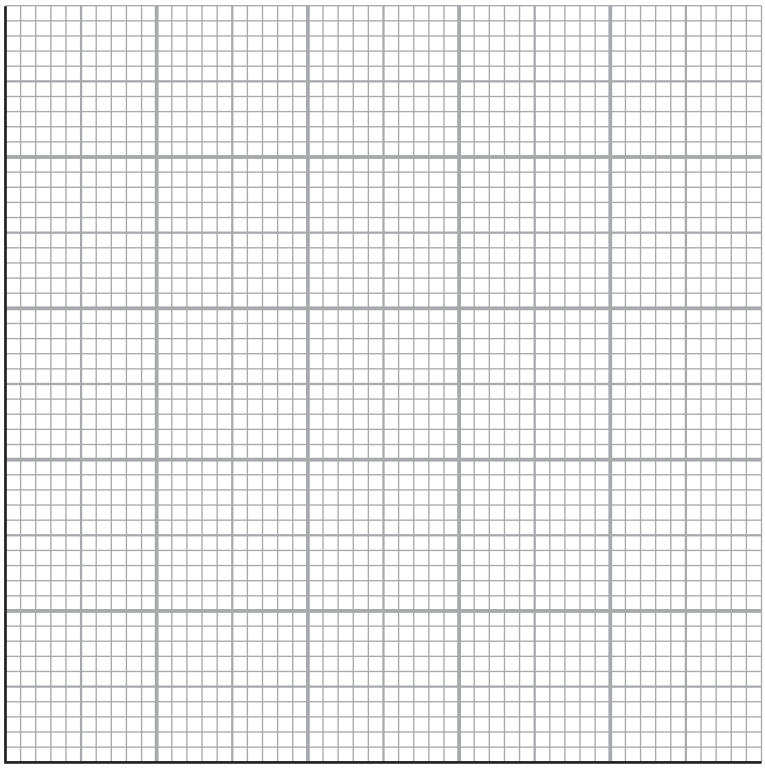
(1 mark)

(c) Draw a bar chart to show the sports survey results for the 25 students.



(4 marks)

Question 3 continues on the next page

(d) In a group of 100 people at a football match:

50 stated that they supported the home team,
30 stated that they supported the away team
and 20 supported neither team.

Represent these data by means of a pictogram.
Use the symbol  to represent 20 people.

(3 marks)

10

Turn over for the next question

LEAVE MARGIN BLANK

SECTION D

Answer **all** questions in the spaces provided.

Use **Number of bank branches** *on page 4 of the Data Sheet.*

4

	A	B	C	D	E
1	**Bank**	**Number of branches in 1995**	**Number of branches in 2000**	**Number of branches closed**	**Percentage of branches closed**
2	Barclays	2050	1727		
3	HSBC	1701	1668		
4	Lloyds	2858	2200		
5	NatWest	2215	1643		

Complete the spreadsheet to show the percentages of branches closed between 1995 and 2000.
Give the percentages of branches closed to one decimal place. *(5 marks)*

5

Space for working

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5 Joanne works 33 hours each week at her bank.
The bank is open 44 hours each week.

(a) Express the number of hours which Joanne works each week as a fraction of the hours that the bank is open each week.
Give your answer in its lowest terms.

.....

Answer .....
(2 marks)

(b) Express this fraction as a percentage.

.....

.....

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Answer .....
(1 mark)

3

Turn over for the next question

LEAVE MARGIN BLANK

SECTION E

Answer **all** questions in the spaces provided.

Use **Rainfall** *on page 4 of the Data Sheet.*

6 (a) For how many months was the rainfall in both 2002 and 2003 above average?

Answer .....
(1 mark)

(b) (i) In which month of which year was the rainfall most above average?

.....

Answer .....
(1 mark)

(ii) How much above average was this rainfall?

.....

Answer .....
(1 mark)

(c) On 31 December 2002, 6.25 inches of rain fell in Tampa between 7 pm and midnight. If this rain had fallen 5 hours later, it would have fallen in 2003.

If this rain had fallen in 2003, would 2003 have been a wetter year than 2002? Give a reason for your answer.

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(2 marks)

5

7 Harold comments on the weather in another town.
In the last thirty months the ratio of the number of months in which the rainfall has been above average to the number of months in which the rainfall has been below average is $5:1$.

In how many months does Harold say that the rainfall was above average?

.....

.....

Answer .....

(3 marks)

3

END OF QUESTIONS

There are no questions printed on this page