

Surname						Other Names					
Centre Number						Candidate Number					
Candidate Signature											

For Examiner's Use
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General Certificate of Secondary Education  
March 2008



**MATHEMATICS (MODULAR) (SPECIFICATION B)**  
**Module 1 Foundation Tier Section A**  
**Non-coursework Specification**

**43051/FA**  
**F**

Monday 3 March 2008 1.30 pm to 2.00 pm

<p><b>For this paper you must have:</b></p> <ul style="list-style-type: none"> <li>• a calculator</li> <li>• mathematical instruments</li> <li>• a treasury tag.</li> </ul>	
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For Examiner's Use			
Section A		Section B	
Question	Mark	Question	Mark
1		5	
2		6	
3		7	
4		8	
Total Section A			
Total Section B			
TOTAL			
Examiner's Initials			

Time allowed for Section A: 30 minutes

**Instructions**

- Use blue or black ink or ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- Answer the questions in the spaces provided.
- Use a calculator where appropriate.
- Do all rough work in this book.
- This paper is divided into two sections: Section A and Section B.
- After the 30 minutes allowed for Section A, you must put your calculator on the floor under your seat. You will then be given Section B.
- When you have answered Section B you may work again on Section A but you may **not** use your calculator. It must remain on the floor under your seat.
- At the end of the examination tag Section A and Section B together with Section A on top.

**Information**

- The maximum mark for Section A is 23.
- The marks for questions are shown in brackets.
- You may ask for more answer paper and graph paper. These must be tagged securely to this answer book.

**Advice**

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



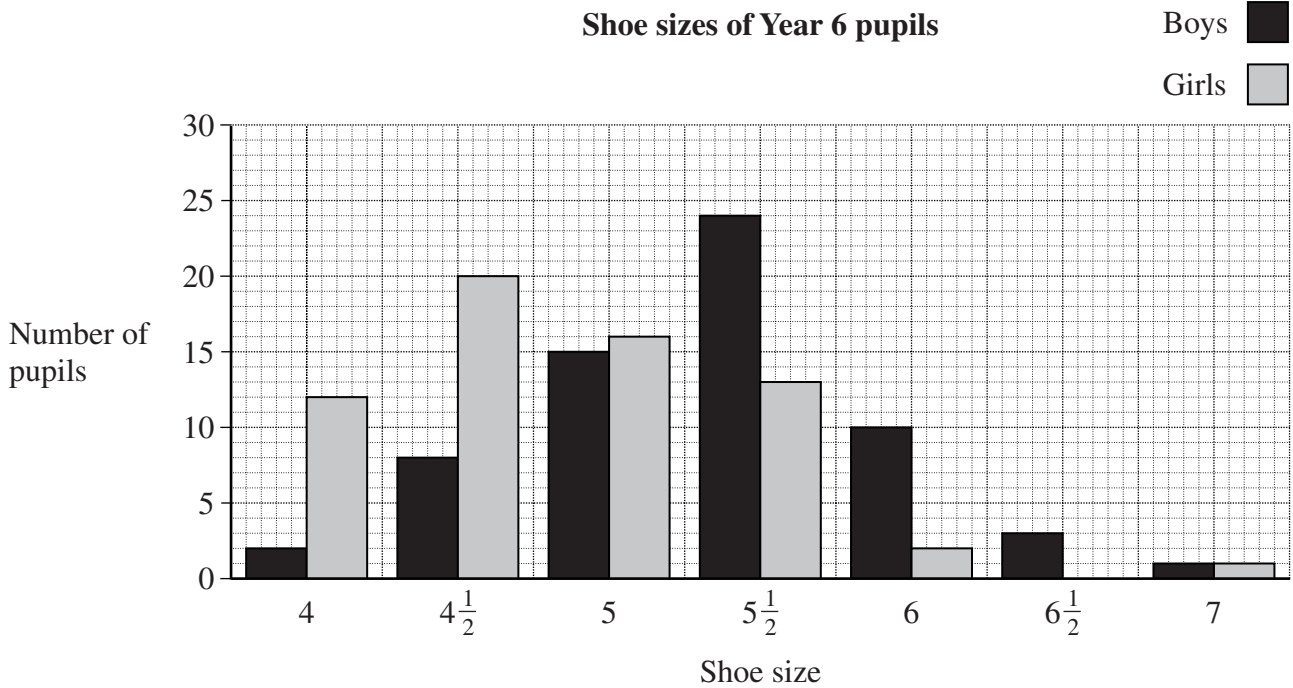
M A R 0 8 4 3 0 5 1 F A 0 1

APW/Mar08/43051/FA

**43051/FA**

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

- 1 The bar chart shows the shoe sizes of boys and girls in Year 6 at a school.



- (a) How many girls have shoe size 4?

Answer ..... (1 mark)

- (b) Which shoe size is the mode for the boys?

Answer ..... (1 mark)

- (c) How many girls have a shoe size greater than 6?

Answer ..... (1 mark)

- (d) How many pupils have shoe size 5?

.....

Answer ..... (2 marks)

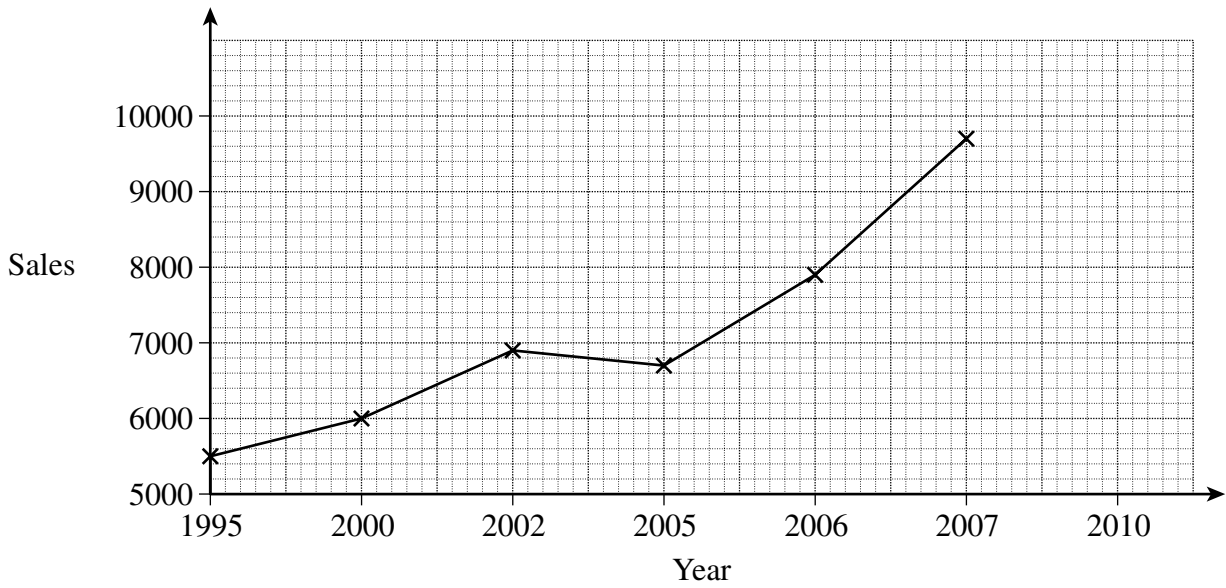
- (e) How many more girls than boys have shoe size 4  $\frac{1}{2}$ ?

.....

Answer ..... (2 marks)



2 This graph appeared in a newspaper.



(a) Write down **two** reasons why this graph is misleading.

Reason 1 .....

.....  
.....

Reason 2 .....

.....  
.....

(2 marks)

(b) The sales from 2003 to 2007 are shown in the table.

<b>Year</b>	2003	2004	2005	2006	2007
<b>Sales</b>	6200	7000	6700	7900	9700

Calculate the mean of these sales.

.....  
.....  
.....

Answer ..... (3 marks)

Turn over ►

5



3 The table shows how 120 people travelled to work one day.

Method of travel	Number of people
Rail	26
Car	65
Bus	21
Other	8

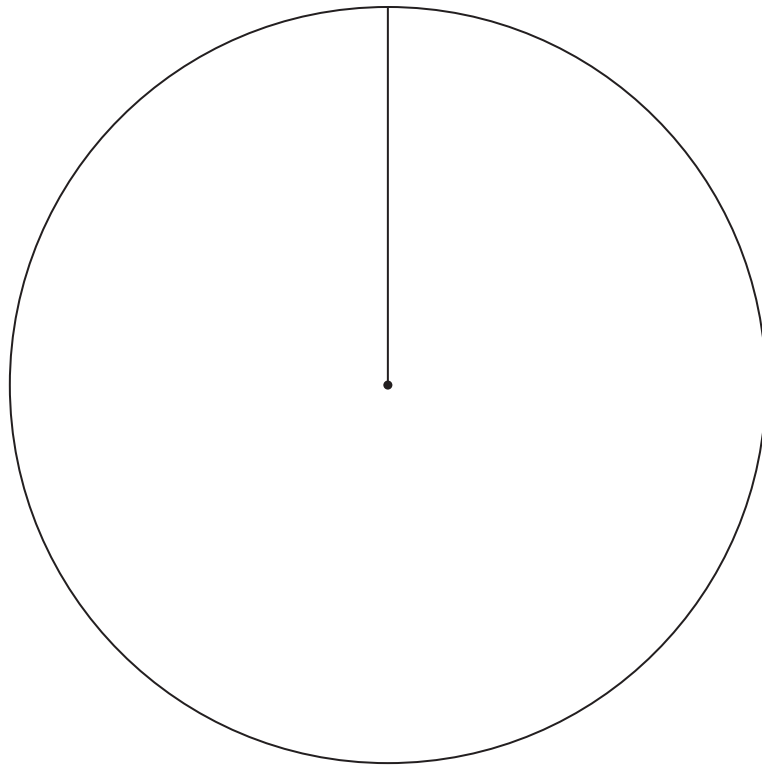
(a) Draw and label a pie chart to represent this data.

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.....

.....

**Method of travel**



*(4 marks)*



(b) Each worker was given a questionnaire.

One of the questions was

How long did it take you to get to work today?			
Response section: tick one box			
Under 20 mins	Under 40 mins	Under 60 mins	60 mins or more
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explain why the response section of this question is unsuitable.

.....

.....

.....

(1 mark)

5
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**Turn over for the next question**

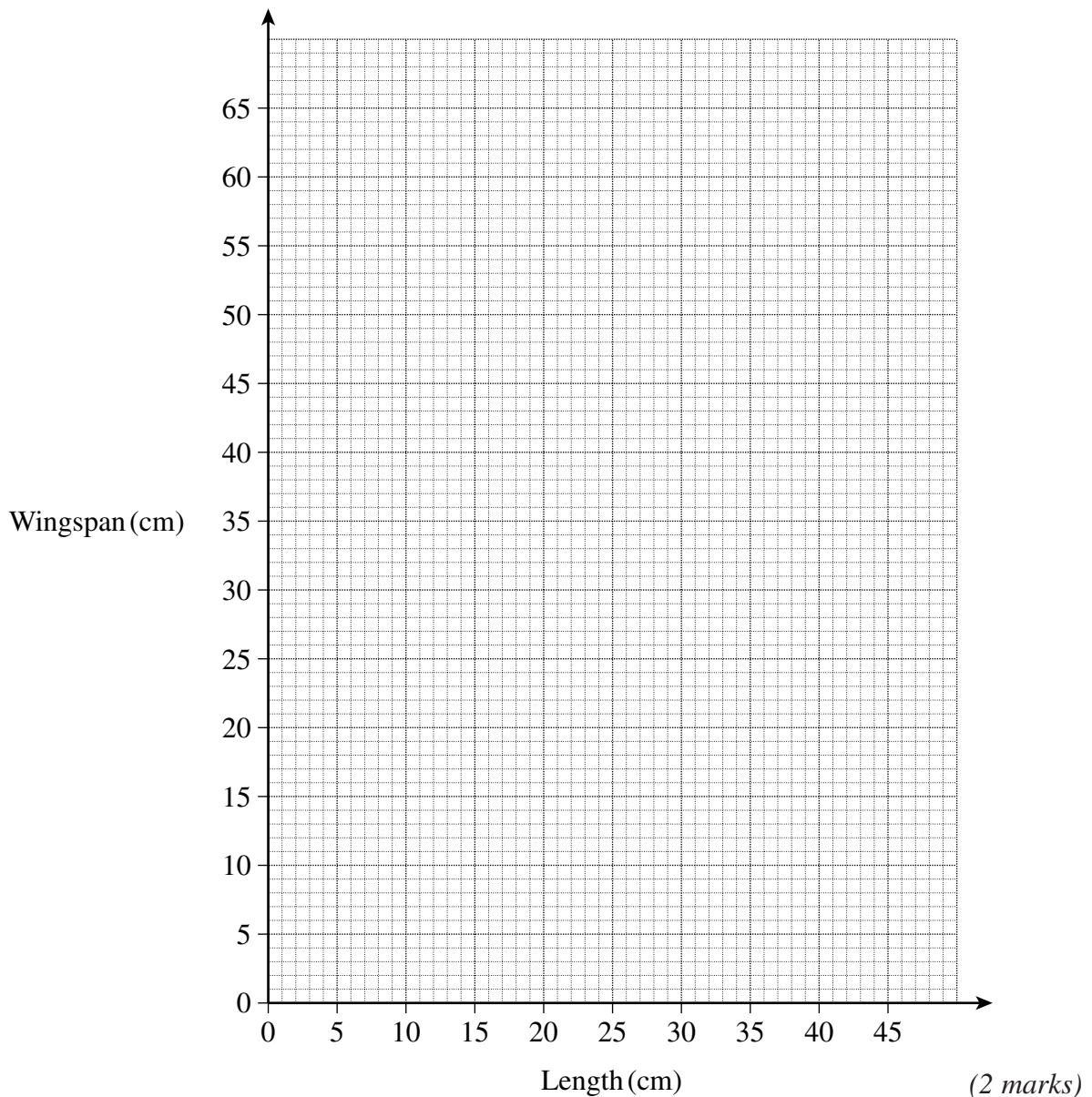
**Turn over ►**



- 4 The length and wingspan, in centimetres, of seven common garden birds is shown in the table.

Bird	Length (cm)	Wingspan (cm)
Starling	21	40
Blackbird	25	36
Blue Tit	11	19
Greenfinch	15	26
Dove	32	51
Sparrow	15	23
Great Tit	14	24

- (a) Plot the data as a scatter graph on the grid below.



(b) Describe the strength and type of correlation.

.....  
.....  
(1 mark)

(c) Draw a line of best fit on your scatter graph.

(1 mark)

(d) Use your line of best fit to estimate the wingspan of a thrush whose length is 20 cm.

Answer ..... cm (1 mark)

(e) It is **not** sensible to use your line of best fit to estimate the wingspan of a pigeon whose length is 41 cm.

Explain why.

.....  
.....  
.....  
(1 mark)

6

**END OF SECTION A**



**There are no questions printed on this page**





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General Certificate of Secondary Education  
March 2008



**MATHEMATICS (MODULAR) (SPECIFICATION B)**  
**Module 1 Foundation Tier Section B**  
**Non-coursework Specification**

**43051/FB**  
**F**

Monday 3 March 2008 2.05 pm to 2.35 pm

<p><b>For this paper you must have:</b></p> <ul style="list-style-type: none"> <li>mathematical instruments.</li> </ul> <p>You must <b>not</b> use a calculator.</p>	
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Time allowed for Section B: 30 minutes

**Instructions**

- Use blue or black ink or ball-point pen. Draw diagrams in pencil.
- 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.
- You may **not** use your calculator in Section B. Your calculator must remain on the floor under your seat.
- When you have answered Section B you may work again on Section A but you may **not** use your calculator. It must remain on the floor under your seat.
- At the end of the examination tag Section A and Section B together with Section A on top.

**Information**

- The maximum mark for Section B is 23.
- The marks for questions are shown in brackets.
- You may ask for more answer paper and graph paper. These must be tagged securely to this answer booklet.

**Advice**

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



M A R 0 8 4 3 0 5 1 F B 0 1

APW/Mar08/43051/FB

**43051/FB**

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

5 Jess lists each programme shown one day on a television channel.

Comedy	News	Film	Soap	News
Film	News	Drama	Film	Soap
News	Comedy	Comedy	News	Soap
Drama	Film	News	Soap	Film

(a) Complete the table.

Type of programme	Tally	Frequency
News		
Comedy		
Film		
Drama		
Soap		

(2 marks)

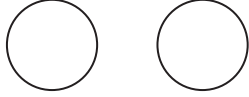
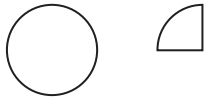
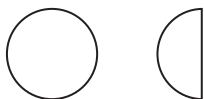

(b) Which type of programme was shown the least?

Answer ..... (1 mark)



(c) The pictogram shows some of the programmes Jess watched last week.

Key  Represents 4 programmes

News	
Comedy	
Film	
Drama	
Soap	

(i) How many News programmes did Jess watch?

.....

Answer ..... (1 mark)

(ii) How many Dramas did Jess watch?

.....

Answer ..... (1 mark)

(iii) Jess watched seven soaps last week.

Complete the pictogram to show this information.

(2 marks)

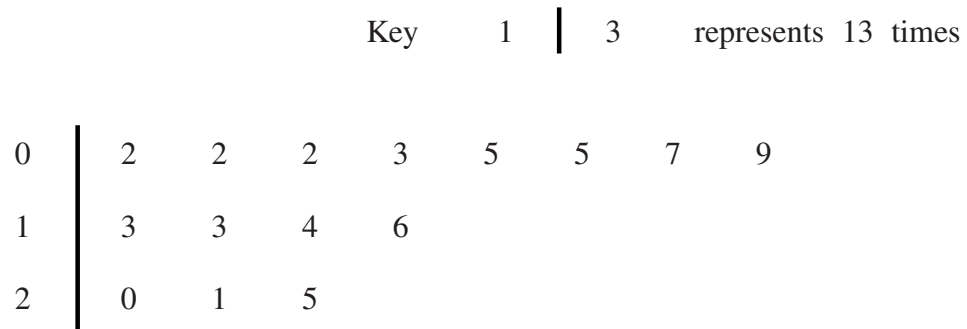
7
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Turn over ►



6 Seema and Ben collect data about the number of times pupils log on to the school intranet in one week.

- (a) Seema collected data about 15 pupils from the school computer records. Her results are presented in the stem-and-leaf diagram.



- (i) Work out the median number of times that these pupils logged on.

.....

Answer ..... (1 mark)

- (ii) One of these pupils is chosen at random.

What is the probability that this pupil logged on less than ten times?

.....

Answer ..... (2 marks)



- (b) Ben asked 19 pupils.  
His results are shown in the table.

Number of times logged on	Number of pupils
1	9
3	1
4	4
6	2
7	2
10	1

Ben says that the median number of times that pupils logged on was 5.

Show working to explain why Ben is wrong.

.....

.....

.....

(2 marks)

- (c) Seema and Ben combine their sets of data.

Calculate the range of their combined results.

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Answer ..... (2 marks)

7
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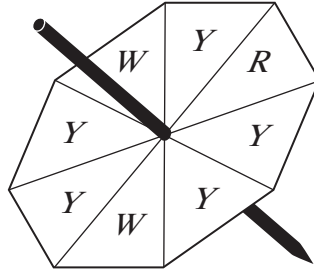
Turn over ►



7 Jenny has a fair spinner.

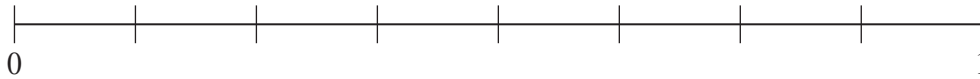
The spinner has eight equal sections.

One is red (R), two are white (W) and the rest are yellow (Y).



Jenny spins the spinner once.

- (a) Mark the probability scale with the correct letter for the probability of the spinner landing on each colour.



(3 marks)

- (b) Write down the probability that the spinner lands on blue.

Answer ..... (1 mark)

- (c) Write down the probability that the spinner does **not** land on red.

.....

Answer ..... (1 mark)



- (d) Jenny says that whenever she spins this spinner eight times it will land on white exactly twice.

Is Jenny correct?

Yes  No

Explain your answer.

.....

.....

.....

(1 mark)

6
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**Turn over for the next question**

**Turn over ►**



- 8 The headteacher of a school sends a questionnaire to a random sample of teachers in the school.

One of the questions is:

How many hours do you think you are working each week?

The results are shown in the table.

Hours worked each week, $t$	Number of teachers
$25 \leq t < 30$	0
$30 \leq t < 35$	2
$35 \leq t < 40$	3
$40 \leq t < 45$	8
$45 \leq t < 50$	6
$50 \leq t < 55$	1

There are 80 teachers in the school.

Use the figures in the table to calculate an estimate of how many teachers in the school are working 40 or more hours each week.

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.....

.....

Answer ..... (3 marks)

3

**END OF QUESTIONS**

