



Oxford Cambridge and RSA

Friday 17 June 2022 – Afternoon

A Level Further Mathematics B (MEI)

Y422/01 Statistics Major

Printed Answer Booklet

Time allowed: 2 hours 15 minutes



You must have:

- Question Paper Y422/01 (inside this document)
- the Formulae Booklet for Further Mathematics B (MEI)
- a scientific or graphical calculator



Please write clearly in black ink. **Do not write in the barcodes.**

Centre number

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Candidate number

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First name(s)

Last name

INSTRUCTIONS

- Use black ink. You can use an HB pencil, but only for graphs and diagrams.
- Write your answer to each question in the space provided in the **Printed Answer Booklet**. If you need extra space use the lined pages at the end of the Printed Answer Booklet. The question numbers must be clearly shown.
- Answer **all** the questions.
- Where appropriate, your answer should be supported with working. Marks might be given for using a correct method, even if your answer is wrong.
- Give your final answers to a degree of accuracy that is appropriate to the context.

INFORMATION

- This document has **24** pages.

ADVICE

- Read each question carefully before you start your answer.

Section A (25 marks)

1(a)	
1(b)	
1(c)	
1(d)	

2(a)	
2(b)	
2(c)	

3(a)	
	$a =$
	$b =$
3(b)	
	$E(Y) =$
$Var(Y) =$	

4(a)

4(b)

6

Section B (95 marks)

5(a)

5(b)

Temperature	20	22	24	26	28	30	32	34	36
Residual tyre pressure	-0.003	-0.002	0.004	-0.010		0.011	-0.003	0.001	

5(c)**5(d)**

25 °C =

10 °C =

5(e)

6(b)	

6(c)	

6(d)	

The mean of the sample =

The size of the sample =

7(a)	
7(b)	

7(c)	

DO NOT WRITE IN THIS SPACE

8(c)	(continued)
8(d)	

9(a)	
9(b)	
	$E(X) =$
	$\text{Var}(X) =$
9(c)	

9(d)	
9(e)	

10(a)	<table border="1" style="margin: auto; border-collapse: collapse; text-align: center;"> <tr> <th colspan="2" rowspan="2" style="padding: 5px;">Expected frequency</th> <th colspan="3" style="padding: 5px;">Dietary fat intake</th> </tr> <tr> <th style="padding: 5px;">Low</th> <th style="padding: 5px;">Medium</th> <th style="padding: 5px;">High</th> </tr> <tr> <th rowspan="2" style="padding: 5px;">Cholesterol level</th> <th style="padding: 5px;">Normal</th> <td style="width: 50px; height: 20px;"></td> <td style="width: 50px; height: 20px;"></td> <td style="padding: 5px;">9.0667</td> </tr> <tr> <th style="padding: 5px;">High</th> <td style="width: 50px; height: 20px;"></td> <td style="width: 50px; height: 20px;"></td> <td style="padding: 5px;">7.9333</td> </tr> </table> <div style="border: 1px solid black; height: 100px; width: 100%;"></div>	Expected frequency		Dietary fat intake			Low	Medium	High	Cholesterol level	Normal			9.0667	High			7.9333
Expected frequency				Dietary fat intake														
		Low	Medium	High														
Cholesterol level	Normal			9.0667														
	High			7.9333														
10(b)	<div style="border: 1px solid black; height: 100px; width: 100%;"></div>																	
10(c)	<div style="border: 1px solid black; height: 100px; width: 100%;"></div>																	

(answer space continued on next page)

10(c)	(continued)
10(d)	

11(a)	

11(b)	

(answer space continued on next page)

11(b)	(continued)
11(c)	

12(a)	

