



Oxford Cambridge and RSA

Friday 16 June 2023 – Afternoon

AS Level Further Mathematics B (MEI)

Y414/01 Numerical Methods

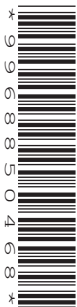
Printed Answer Booklet

Time allowed: 1 hour 15 minutes



You must have:

- Question Paper Y414/01 (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 **12** pages.

ADVICE

- Read each question carefully before you start your answer.

1(a)(i)	
1(a)(ii)	
1(b)(i)	
1(b)(ii)	
2	

(answer space continued on next page)

2 (continued)	
3(a)	
3(b)	

3(c)	
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4(d)

5(a)

5(b)

5(c)																																																			
5(d)																																																			
6(a)	<table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th style="padding: 5px;">t</th> <th style="padding: 5px;">W</th> <th style="padding: 5px;">ΔW</th> <th style="padding: 5px;">$\Delta^2 W$</th> <th style="padding: 5px;">$\Delta^3 W$</th> </tr> </thead> <tbody> <tr> <td style="text-align: center; padding: 5px;">0</td> <td style="text-align: center; padding: 5px;">35.90</td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> <tr> <td style="text-align: center; padding: 5px;">1</td> <td style="text-align: center; padding: 5px;">33.91</td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> <tr> <td style="text-align: center; padding: 5px;">2</td> <td style="text-align: center; padding: 5px;">32.38</td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> <tr> <td style="text-align: center; padding: 5px;">3</td> <td style="text-align: center; padding: 5px;">31.25</td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> <tr> <td style="text-align: center; padding: 5px;">4</td> <td style="text-align: center; padding: 5px;">30.46</td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> </tbody> </table>	t	W	ΔW	$\Delta^2 W$	$\Delta^3 W$	0	35.90									1	33.91									2	32.38									3	31.25									4	30.46			
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7(a)	(continued)
7(b)(i)	
7(b)(ii)	
7(c)	

8(a)	
8(b)	
8(c)	

