



Oxford Cambridge and RSA

Thursday 22 October 2020 – Afternoon

A Level Further Mathematics A

Y544/01 Discrete Mathematics

Printed Answer Booklet

Time allowed: 1 hour 30 minutes

You must have:

- Question Paper Y544/01 (inside this document)
- the Formulae Booklet for A Level Further Mathematics A
- 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 non-exact numerical answers correct to 3 significant figures unless a different degree of accuracy is specified in the question.
- The acceleration due to gravity is denoted by $g \text{ m s}^{-2}$. When a numerical value is needed use $g = 9.8$ unless a different value is specified in the question.

INFORMATION

- This document has **16** pages.

ADVICE

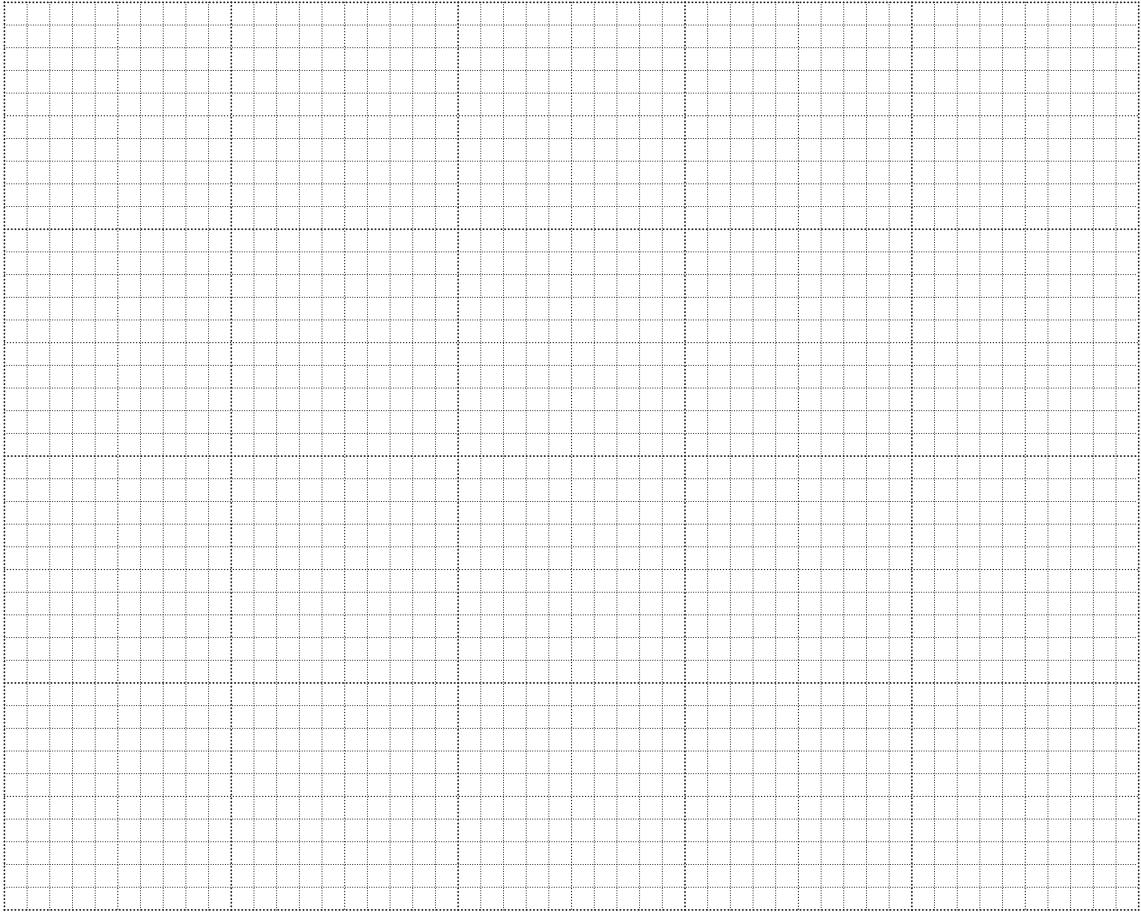
- Read each question carefully before you start your answer.

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

1(b)(ii)	
1(c)(i)	
1(c)(ii)	

2(a)(i) 2(a)(ii)		R	S	T
	K	(7, 3)	(2, 6)	(5, 3)
	L	(1, 5)	(8, 2)	(2, 5)
	M	(3, 2)	(1, 5)	(4, 6)
2(b)(i)				
2(b)(ii)				
2(c)				

2(d) (continued) If you want this grid marked, instead of the first grid, please tick the box on the previous page.



2(e)

	R	S	T
K	(7, 3)	(2, 6)	(5, 3)
L	(1, 5)	(8, 2)	(2, 5)
M	(3, 2)	(1, 5)	(4, 6)

3(a)

3(b)

3(c)

P	x	y	z	s	t	RHS
1	-3	1	0	0	0	0
0	2	0	1	1	0	18
0	-1	2	3	0	1	20

There is a spare grid on the next page.

Tick here if you want the **spare** grid marked **instead** of the grid below

P	x	y	z	s	t	RHS

(answer space continued on next page)

4(a)

4(b)

4(c)

Seat 5									
Seat 6									
Seat 7									
Seat 8									

4(d)

5(b)(i)	
	5(b)(ii)
(answer space continued on next page)	

5(b)(ii)	(continued)
5(b)(iii)	
5(c)	
5(d)(i)	
5(d)(ii)	

6(c)																																																																																																																																																																																																																																																																																																																																	
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<p>Space for working for 6(c), 6(d) and 6(e)</p> <div style="margin-bottom: 20px;"> <table border="1" style="width: 100%; height: 40px; border-collapse: collapse;"> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table> </div> <div style="margin-bottom: 20px;"> <table border="1" style="width: 100%; height: 40px; border-collapse: collapse;"> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table> </div> <div style="margin-bottom: 20px;"> <table border="1" style="width: 100%; height: 40px; border-collapse: collapse;"> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table> </div> <div> <table border="1" style="width: 100%; height: 40px; border-collapse: collapse;"> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table> </div>																																																																																																																																																																																																																																																																																																																																	

