



Oxford Cambridge and RSA

Tuesday 3 June 2025 – Afternoon

AS Level Further Mathematics A

Y534/01 Discrete Mathematics

Printed Answer Booklet

Time allowed: 1 hour 15 minutes



You must have:

- Question Paper Y534/01 (inside this document)
- the Formulae Booklet for AS 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 gms^{-2} . When a numerical value is needed use $g = 9.8$ unless a different value is specified in the question.

INFORMATION

- The total mark for this paper is **60**.
- The marks for each question are shown in brackets [].
- This document has **16** pages.

ADVICE

- Read each question carefully before you start your answer.

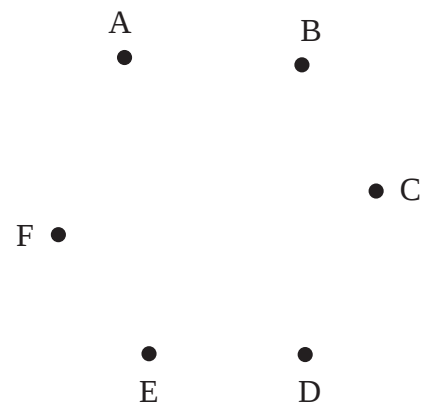
1(a)	
1(b)	
1(c)	

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

3(a)

Minimum spanning tree

	A	B	C	D	E	F
A	–	5	3	5	8	10
B	5	–	6	2	7	5
C	3	6	–	1	10	8
D	5	2	1	–	9	4
E	8	7	10	9	–	3
F	10	5	8	4	3	–



Arcs in order:

Total weight:

3(b)

3(c)

Path:

Length:

km

4(a)																	
4(b)																	
4(c)	<table border="1" style="margin: auto; border-collapse: collapse;"> <tr> <td style="width: 20%;"></td> <td style="width: 20%; text-align: center;">X</td> <td style="width: 20%; text-align: center;">Y</td> <td style="width: 20%; text-align: center;">Z</td> </tr> <tr> <td style="text-align: center;">A</td> <td style="text-align: center;">−2</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> </tr> <tr> <td style="text-align: center;">B</td> <td style="text-align: center;">2</td> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">C</td> <td style="text-align: center;">0</td> <td style="text-align: center;">−2</td> <td style="text-align: center;">0</td> </tr> </table>		X	Y	Z	A	−2	1	0	B	2	0	1	C	0	−2	0
		X	Y	Z													
	A	−2	1	0													
	B	2	0	1													
	C	0	−2	0													
Play-safe strategies:																	
4(d)																	

4(e)	
4(f)	
	
Optimal strategy:	

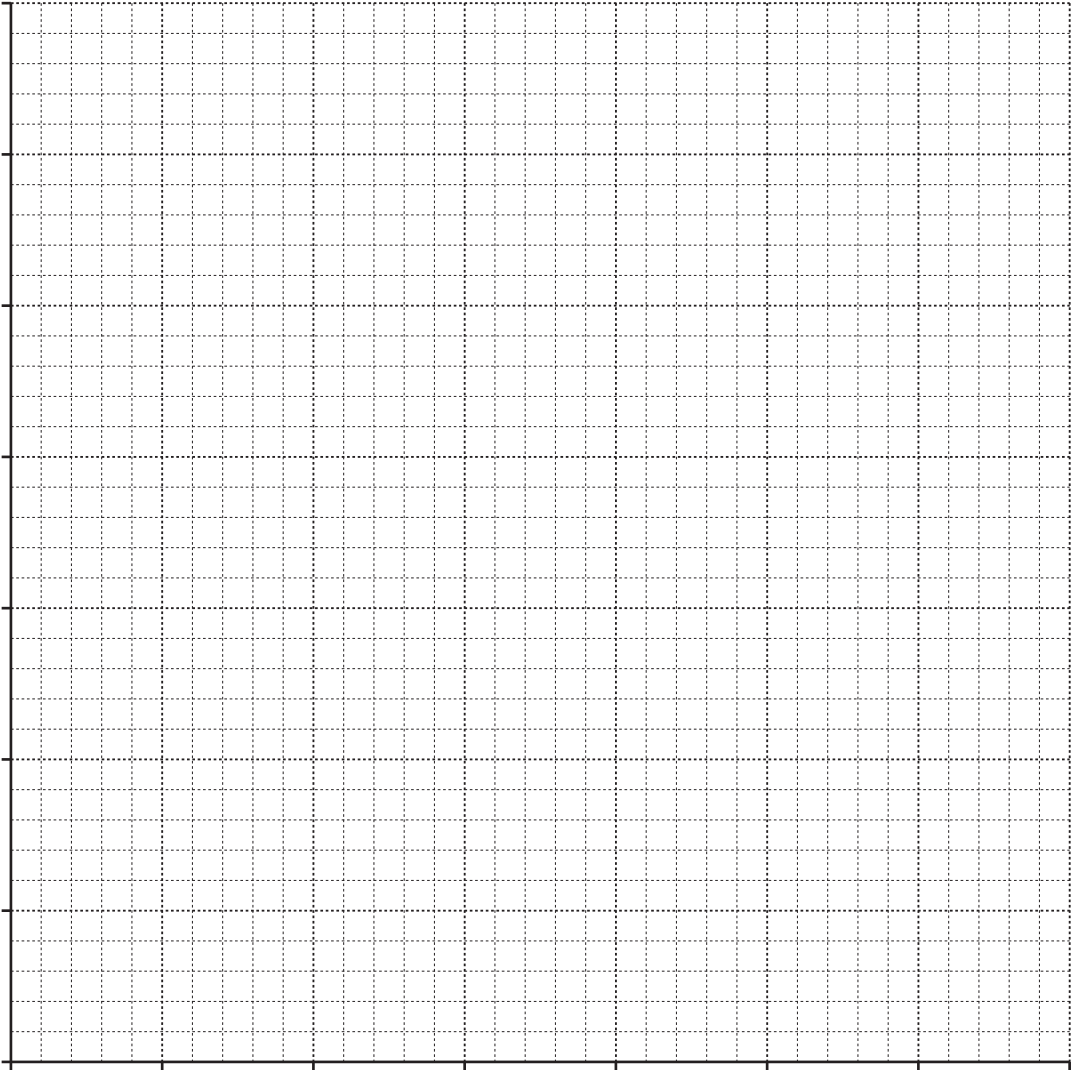
5(a)	
5(b)	
5(c)	

6(a) 6(b)(i)	
6(b)(ii)	Critical activities:

6(c)	

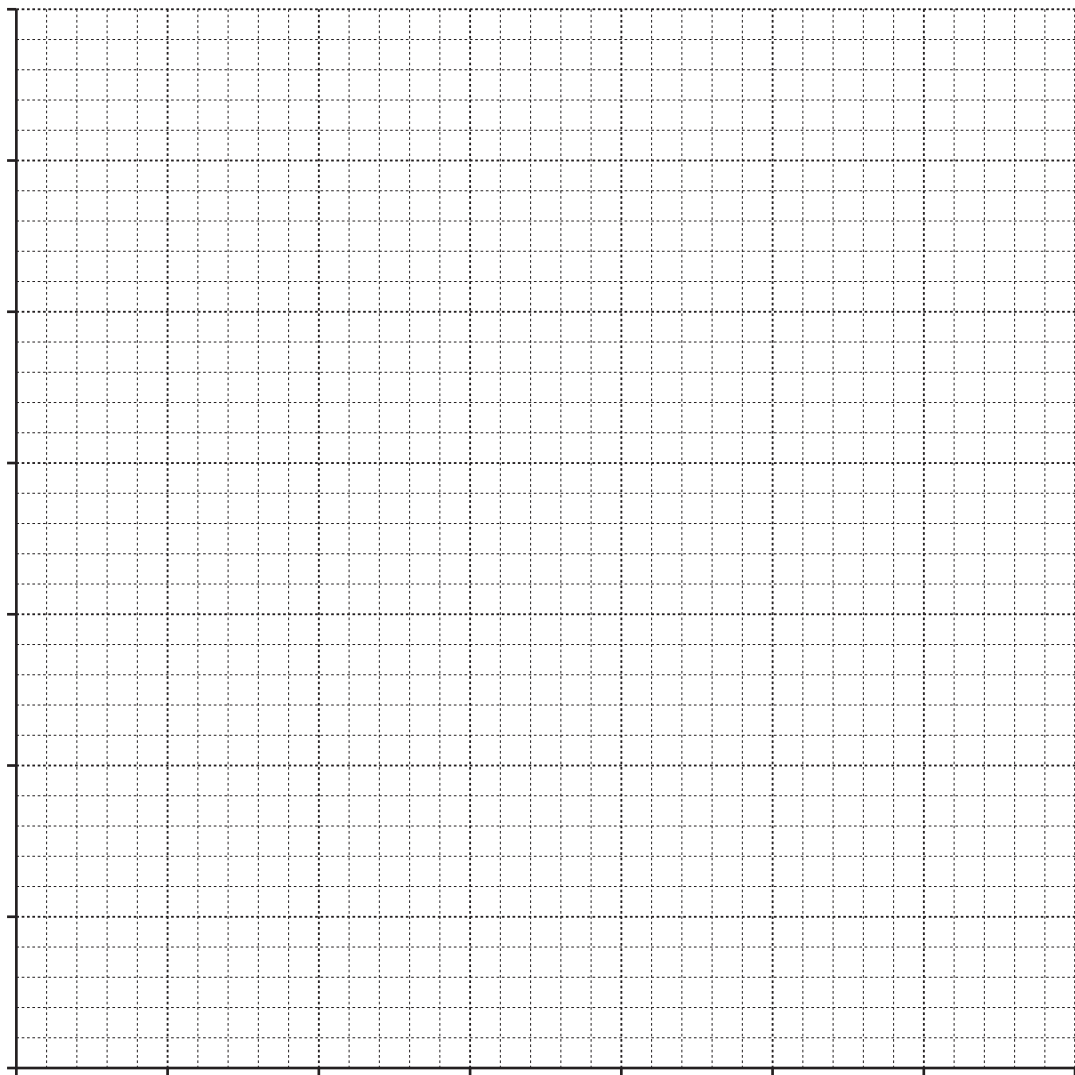
DO NOT WRITE ON THIS PAGE

7(a)	
	7(b)(i)
(answer space continues on the next page)	

7(b)(i)	(continued) There is a spare copy of this grid on the next page if needed.	
		
7(b)(ii)		
	Maximum amount of money: £	

7(c)

Spare grid for 7(b) if needed



EXTRA ANSWER SPACE

If you need extra space use these lined pages. You must write the question numbers clearly in the margin.



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