

Wednesday 19 June 2024 - Afternoon

A Level Further Mathematics A

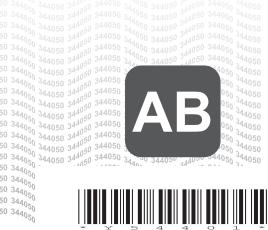
Y544/01 Discrete Mathematics

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						Candidate number			
First name(s)									
Last name									

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INSTRUCTIONS

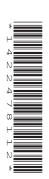
- Use black ink. You can use an HB pencil, but only for graphs and diagrams.
- Write your answer to each question in the space provided in the Printed Answer Booklet. If you need extra space use the lined pages at the end of the Printed Answer Booklet. The guestion numbers must be clearly shown.
- Answer 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 $gm s^{-2}$. 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 75.
- The marks for each question are shown in brackets [].
- This document has 16 pages.

ADVICE

Read each question carefully before you start your answer.



2 BLANK PAGE

PLEASE DO NOT WRITE ON THIS PAGE

1(a)						
	A chooses	В				
	B chooses	A				
	C chooses	D				
	D chooses	С				
1(b)						
1(c)						
,						
1(d)						
1(e)						

2(a)										
		Р	x	y	Z	S	t	и	RHS	
		1								
		0	3	-4	-1	1	0			
		0	1	-1	0	0	1			
2(b)										
2(b)										
2(b)										
2(b)		P	x	y	z	S	t	u	RHS	
2(b)		P	x	<i>y</i>	z	S	t	u	RHS	
2(b)		P	x	y	z	S	t	и	RHS	1
2(b)		P	x	у	Z	S	t	u	RHS	
2(b)		P	x	У	Z	S	t	u	RHS	
2(b)		P	x	y		S	t		RHS	
2(c)	x =			y		S	t		RHS	
	x =		lge	y		S			RHS	
2(c)	x =			<i>y</i> = 0,		, s =	t , $t =$	z =	RHS u =	

3(a)			Beth				
			X	Y	Z		
	Amir	P	2	-3	С		
		Q	-3	b	4		
		R					
		K	а	-1	-2		
3(b)			Beth				
			X	Y	Z		
	Amir	P	2	-3	С		
		Q	-3	b	4		
		R	а	-1	-2		
3(c)							

4(a) 4(b)	C(5) $B(4)$ $D(3)$ $E(1)$ $F(2)$ $G(1)$											
	Minimum project completion time = hours											
	Activity Float (hours)	A	В	С	D	Е	F	G				
4(c)												
	Activity Independent flo (hours)	oat										
	Interfering float (hours)	t										

4(d)		•	•	•	•	•	•	•	•	•	•	•		•			
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	(0	1	2	3	4	5	6	7	8	9	10	11	12		hours	
	Spare copy	of g	grid														
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4(e)																	
	Time fro		0		1 2	2 3	3 4	4 5	5 6	6 7	7 8			9 10	10 11	11 12	
	Worker	1															
	Worker 2	2															
4(f)																	
-(-)	Time fro		0		1 2	2 3	3 4	4 5	5 6	6 7	7 8			9 10	10 11	11 12	
	Worker	1															
	Worker 2	`	1														

5(a)				
70)				
5(b)				
5(c)				
		В •	• C	
	A •			• D
		F •	• E	
5(d)				
7 ()				
5(e)				

5(f)	
	Space for working

5(g)		A	В	С	D	Е	F
	A						
	В						
	C						
	D						
	E						
	F						
5(h)							

6(a)	

6(b)	Space for working

6(c)	
6(d)	
	Least possible value of Sasha's maximum total profit is
6(e)	

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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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