

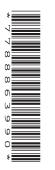
# Thursday 16 May 2019 – Afternoon

## **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 (inserted)

• Formulae AS Further Mathematics A

You may use:

• a scientific or graphical calculator



Please write clea	arly in blac	k ink. <b>Do r</b>	not wri	te in the barcodes.		
Centre number				Candidate number		
First name(s)						
Last name						

#### INSTRUCTIONS

- The Question Paper will be found inside the Printed Answer Booklet.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer all the questions.
- Write your answer to each question in the space provided in the Printed Answer Booklet. If additional space is required, use the lined page(s) at the end of this booklet. The question number(s) must be clearly shown.
- You are permitted to use a scientific or graphical calculator in this paper.
- 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  $gm s^{-2}$ . Unless otherwise instructed, when a numerical value is needed, use g = 9.8.

#### INFORMATION

- You are reminded of the need for clear presentation in your answers.
- The Printed Answer Booklet consists of **12** pages. The Question Paper consists of **8** pages.

<b>1</b> (a)	
1(b)	
_(~)	
1(c)	
1(d)	

2(a)							
	Vertex	J	K	L	М	N	
	Degree						
	Vertex	Р	Q	R	S	Т	
	Degree						
2(b)							
-							
-							
-							
-							
-							
-							
2(c)(i)							
-							
2(c)(ii)							
-							
2(d)							
-							
-							
-							
-							
-							

3(a)							
3(b)	6	9	5	7	6	4	
	Input list		L	N		Output list	
			I	· ·		nce continued on next p	

	Input list	L	N	Output list	
B(c)(i)					
(c)(ii)					
3(d)					
I					

4	6	
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(answer space continued on next page)

**4(a)** 

<b>4</b> ( <b>a</b> )	(continued)
	Space for working:
	Longest path(s):
	Shortest path(s):
<b>4(b)</b>	
4(c)	
4(0)	

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

5(b)(i)	(continued	)						
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5(b)(ii)								
5(b)(iii)				 	 	 	 	
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<b>6</b> ( <b>a</b> )	
	Emma
	P
	Drew Q
	R
<b>6(b)</b>	
	(answer space continued on next page)
	(answer space continued on next page)

<b>6(b)</b>	(continued)					
6(c)						

ADDITIONAL ANSWER SPACE

If additional space is required, you should use the following lined page(s). The question number(s) must be clearly shown in the margin(s).



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