

AS Level Further Mathematics B (MEI)**Y413 Modelling with Algorithms**

Printed Answer Booklet

Version 2

Date – Morning/Afternoon

Time allowed: 1 hour 15 minutes

You must have:

- Question Paper Y413 (inserted)
- Formulae Further Mathematics B (MEI)

You may use:

- a scientific or graphical calculator



First name

Last name

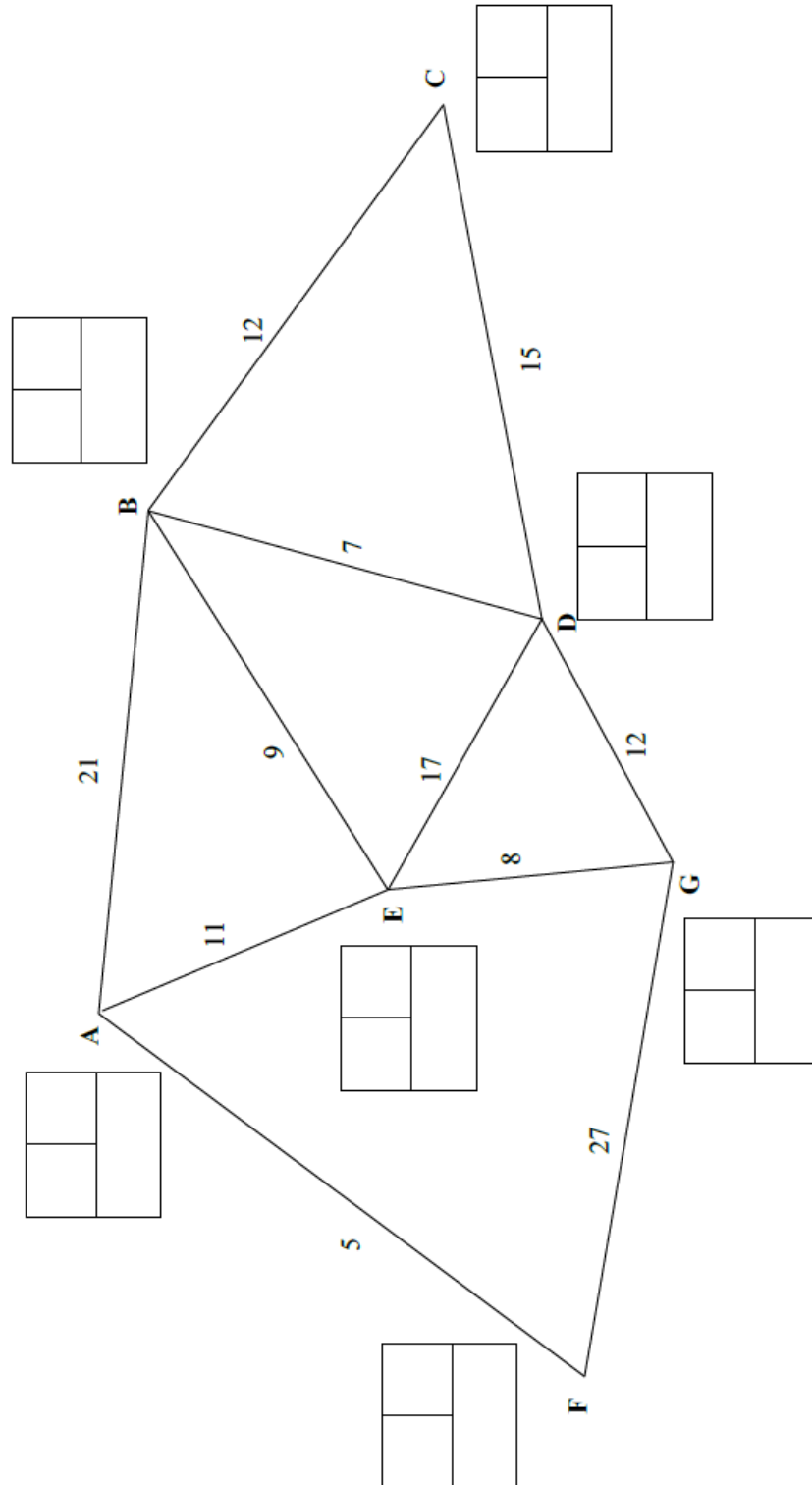
Centre
numberCandidate
number**INSTRUCTIONS**

- The Question Paper will be found inside the Printed Answer Booklet.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Complete the boxes provided on the Printed Answer Booklet with your name, centre number and candidate number.
- Answer **all** the questions.
- **Write your answer to each question in the space provided in the Printed Answer Booklet.** Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).
- Do **not** write in the bar codes.
- You are permitted to use a scientific or graphical calculator in this paper.
- Final answers should be given to a degree of accuracy appropriate to the context.

INFORMATION

- You are advised that an answer may receive **no marks** unless you show sufficient detail of the working to indicate that a correct method is used. You should communicate your method with correct reasoning.
- The Printed Answer Booklet consists of **16** pages. The Question Paper consists of **12** pages.

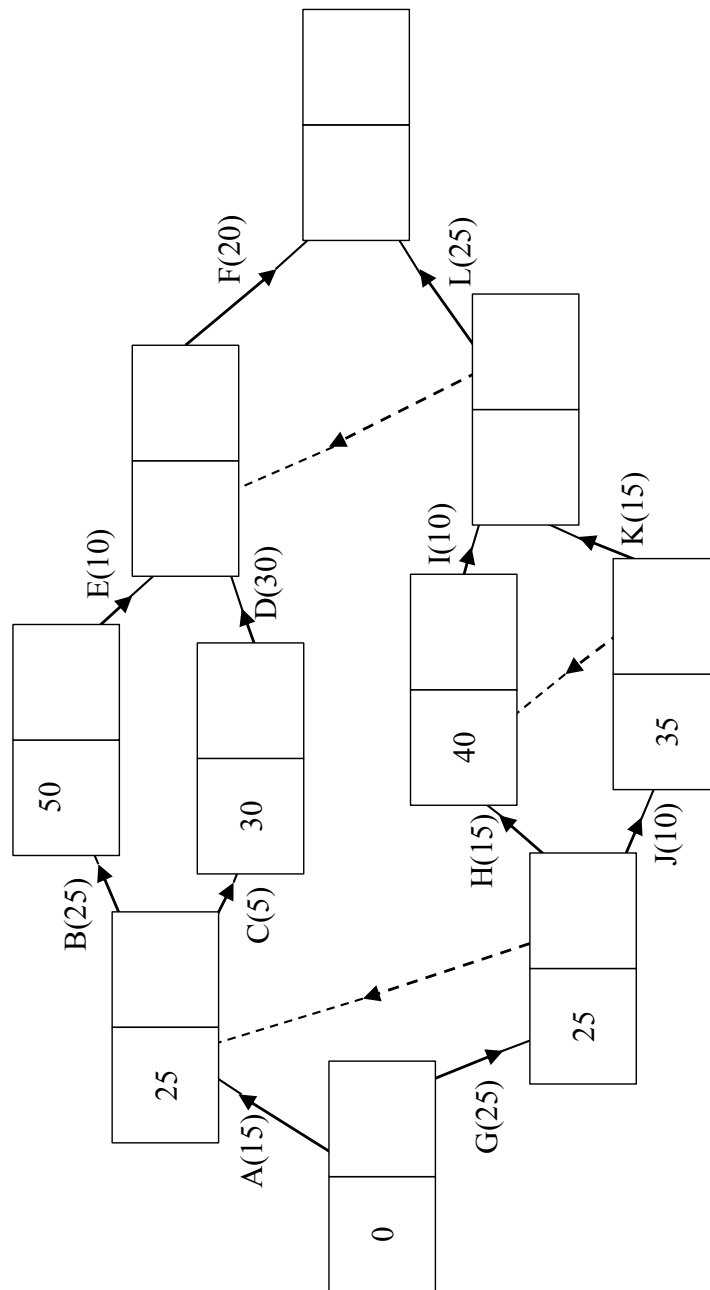
1



A spare copy of the diagram for question 1 can be found on page 13

2 (i)	
2 (ii)	
2 (iii)	
2 (iv)	

3 (i)



A spare copy of the diagram for question 3 (i) can be found on page 14

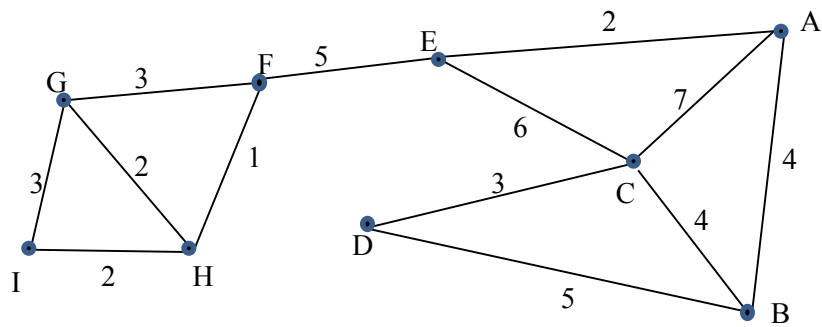
(answer space continued on next page)

3 (i) (continued)	
3 (ii)	
3(iii)	

DO NOT WRITE IN THIS SPACE

4 (i)
(4)

	A	B	C	D	E	F	G	H	I
A		4	7		2				
B	4		4	5					
C	7	4		3	6				
D		5	3						
E	2		6			5			
F					5		3	1	
G						3		2	3
H						1	2		2
I							3	2	



(answer space continued on next page)

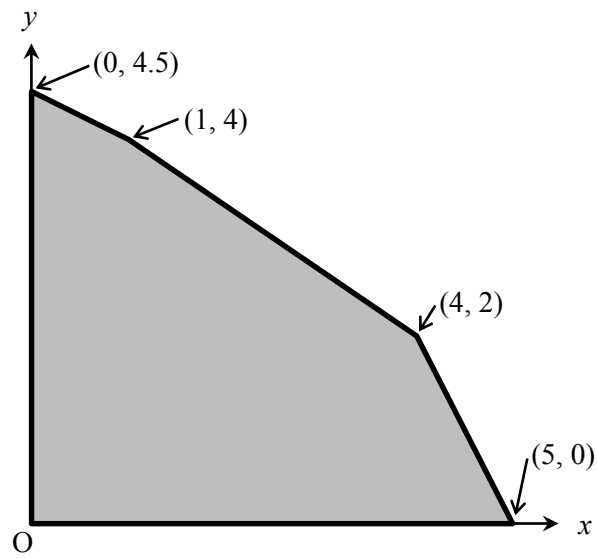
4 (i) (A)	(continued)
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4 (i)
(B)

4 (ii)	

DO NOT WRITE IN THIS SPACE

5 (i)



5 (ii)

5 (iii)
(A)

P	x	y	s_1	s_2	s_3	RHS
1	0	0	0	$\frac{1}{6}$	0	$\frac{7}{3}$
0	0	0	1	$-\frac{3}{4}$	$\frac{1}{4}$	1
0	1	0	0	$-\frac{1}{4}$	$\frac{3}{4}$	4
0	0	1	0	$\frac{1}{2}$	$-\frac{1}{2}$	2

P	x	y	s_1	s_2	s_3	RHS

Spare copy of tableau

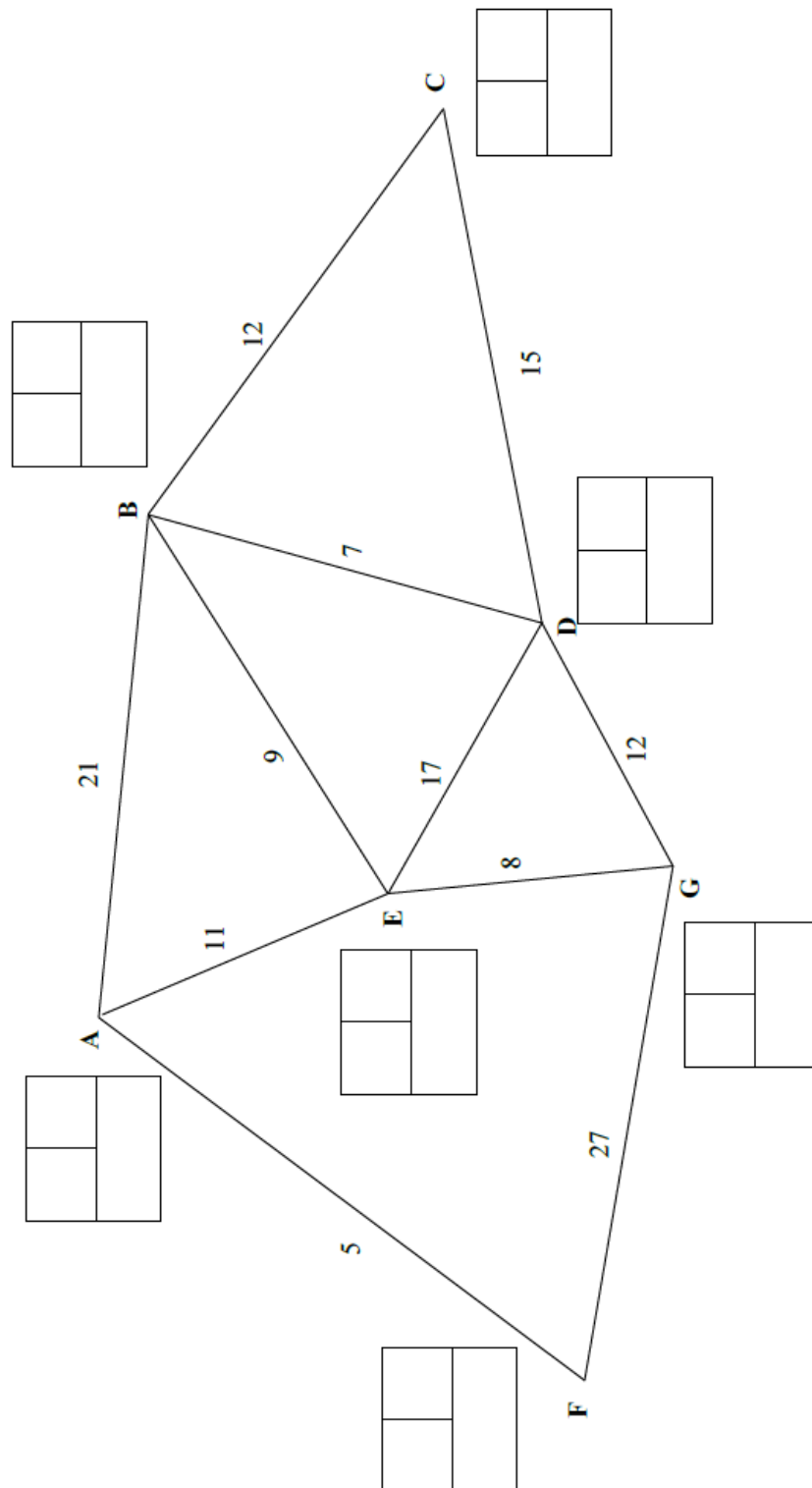
P	x	y	s_1	s_2	s_3	RHS

5 (iii)
(B)

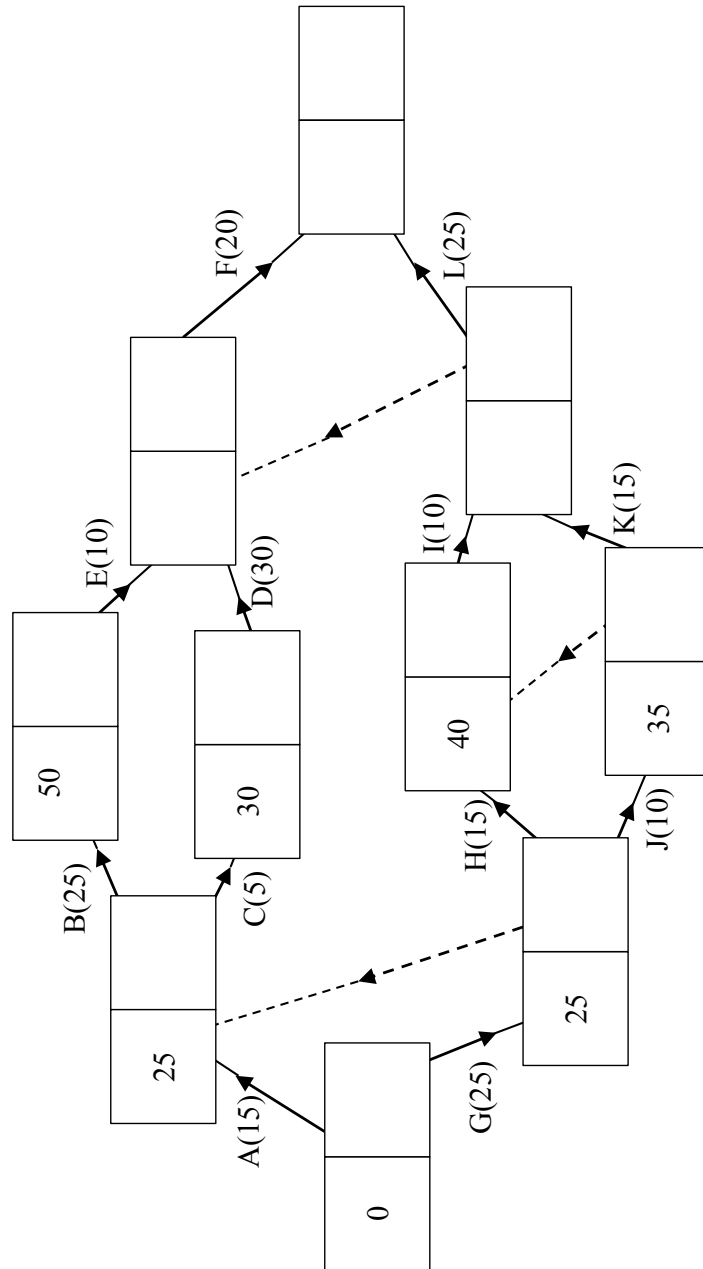
6 (i)	
6 (ii)	
6 (iii)	

6 (iv)	
6 (v)	
6 (vi)	

Spare copy of diagram for question 1



Spare copy of diagram for question 3 (i)



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