OCR
Oxford Cambridge and RSA

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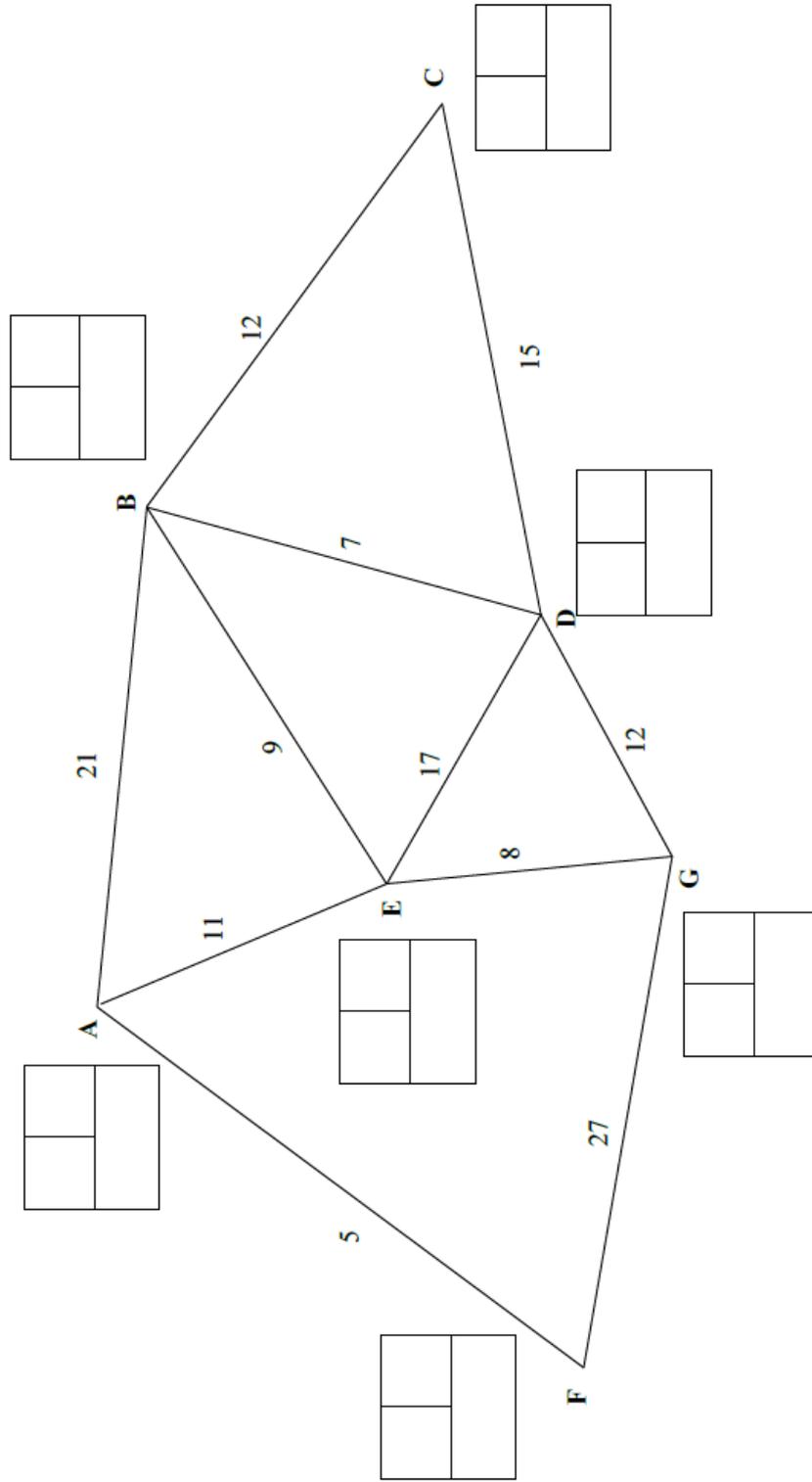
A spare copy of the diagram for question 1 can be found on page 13

2 (i)

2 (ii)

2 (iii)

2 (iv)

Turn over

3 (i)

F(20) L(25)

E(10) D(30) I(10) K(15)

50 30 40 35

B(25) C(5) H(15) J(10)

25 25

A(15) G(25)

0

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

3 (i)	**(continued)**

3 (ii)	

3(iii)	

DO NOT WRITE IN THIS SPACE

4 (i)
(*A*)

	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	

4 (i)
(*A*) **(continued)**

4 (i)
(*B*)
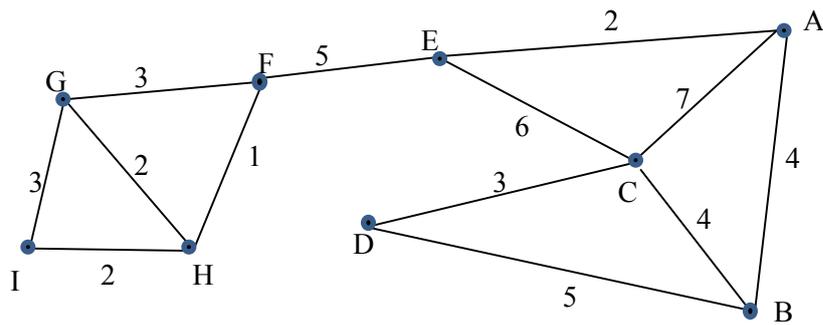
4 (ii)

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5 (i)
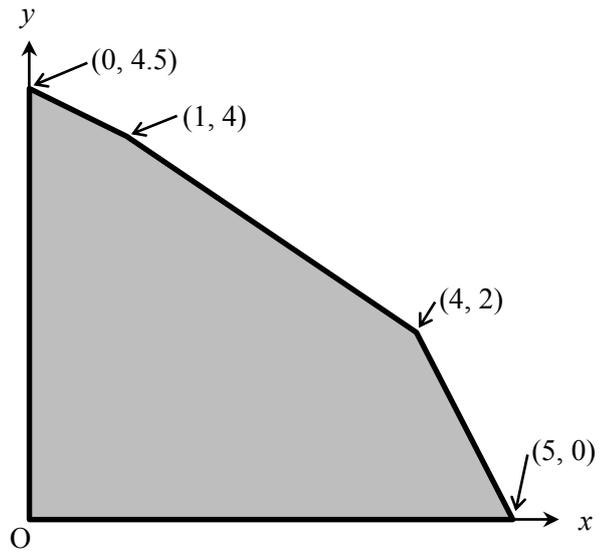
5 (ii)

5 (iii)
(A)

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

12

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

Spare copy of diagram for question 1
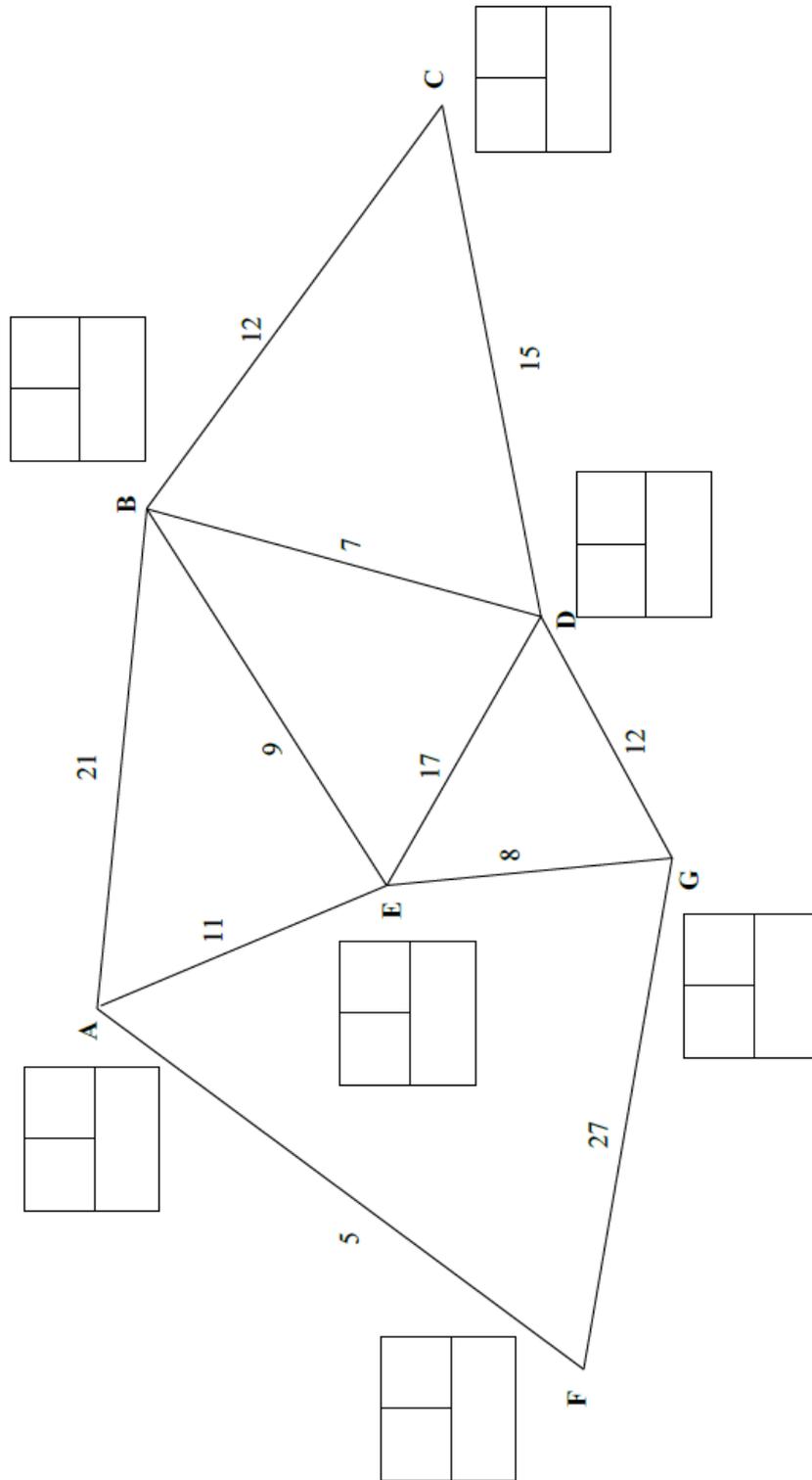
Spare copy of diagram for question 3 (i)
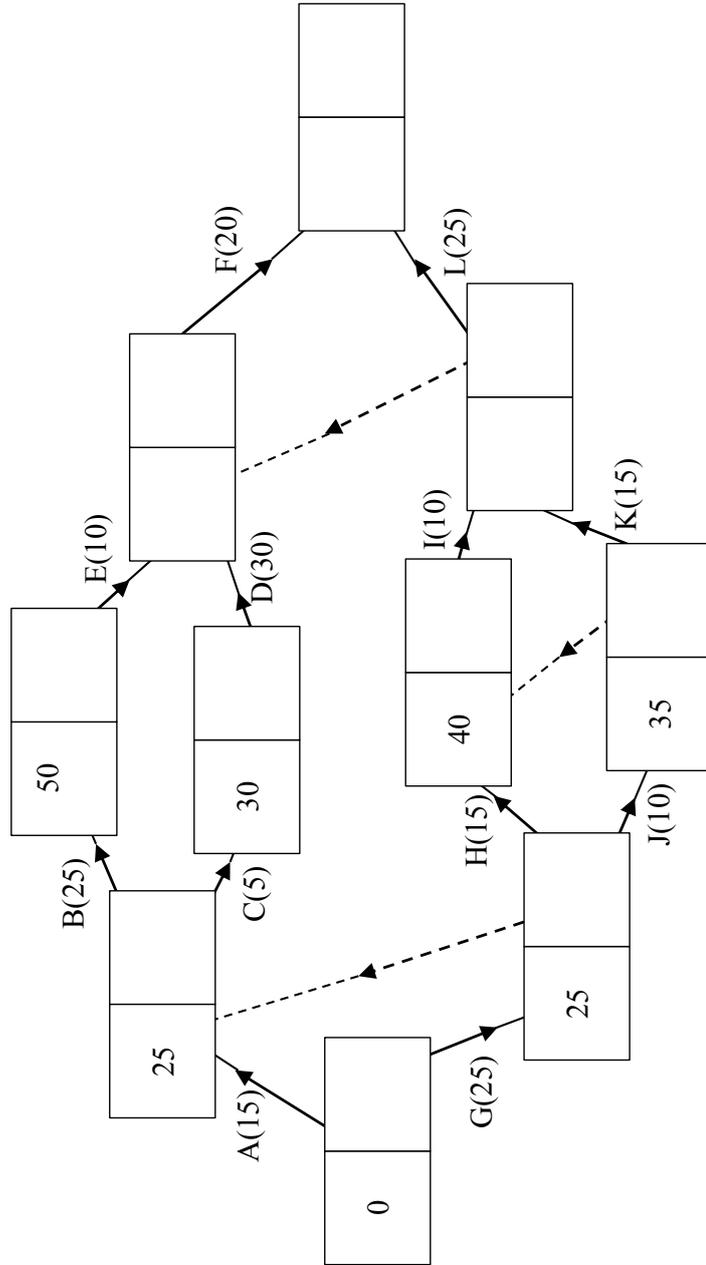
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