

OXFORD CAMBRIDGE AND RSA EXAMINATIONS

Tuesday 3 June 2025 – Afternoon

A Level Further Mathematics B (MEI)

Y433/01 Modelling with Algorithms

Printed Answer Booklet

**Time allowed: 1 hour 15 minutes
plus your additional time allowance**

YOU MUST HAVE:

**Question Paper Y433/01 (with this document)
the Formulae Booklet for Further Mathematics B (MEI)
a scientific or graphical calculator**

Please write clearly in black ink.

Centre number

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Candidate number

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First name(s) _____

Last name _____

READ INSTRUCTIONS OVERLEAF



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 your final answers to a degree of accuracy that is appropriate to the context.

ADVICE

Read each question carefully before you start your answer.

BLANK PAGE

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

1(b)(i)

1(b)(ii)

2(a)

A	B	C	D	E
5	6	150		

Final output: _____

2(b)

**3(a) and
3(b)(i)**

3(b)(ii)

3(b)(iii)

3(c)

	0	1	2	3	4	5	6	7	8	9	10	11
Worker 1	-	+	-	-	+	-	+	-	+	-	+	-
Worker 2	-	+	-	+	-	+	-	+	-	+	-	+
Worker 3	-	+	-	-	+	-	+	-	+	-	+	-
Worker 4	-	+	-	+	-	+	-	+	-	+	-	+
	-	+	-	-	+	-	+	-	+	-	+	-

	11	12	13	14	15	16	17	18	19	20	21	22
Worker 1	-	+	-	-	+	-	+	-	+	-	+	-
Worker 2	-	+	-	+	-	+	-	+	-	+	-	+
Worker 3	-	+	-	-	+	-	+	-	+	-	+	-
Worker 4	-	+	-	+	-	+	-	+	-	+	-	+
	-	+	-	-	+	-	+	-	+	-	+	-

[illegible]

4(a)

4(b)

<i>P</i>	<i>x</i>	<i>y</i>	<i>z</i>	<i>s</i> ₁	<i>s</i> ₂	<i>s</i> ₃	RHS

4(c)

P	x	y	z	s_1	s_2	s_3	RHS

P	x	y	z	s_1	s_2	s_3	RHS

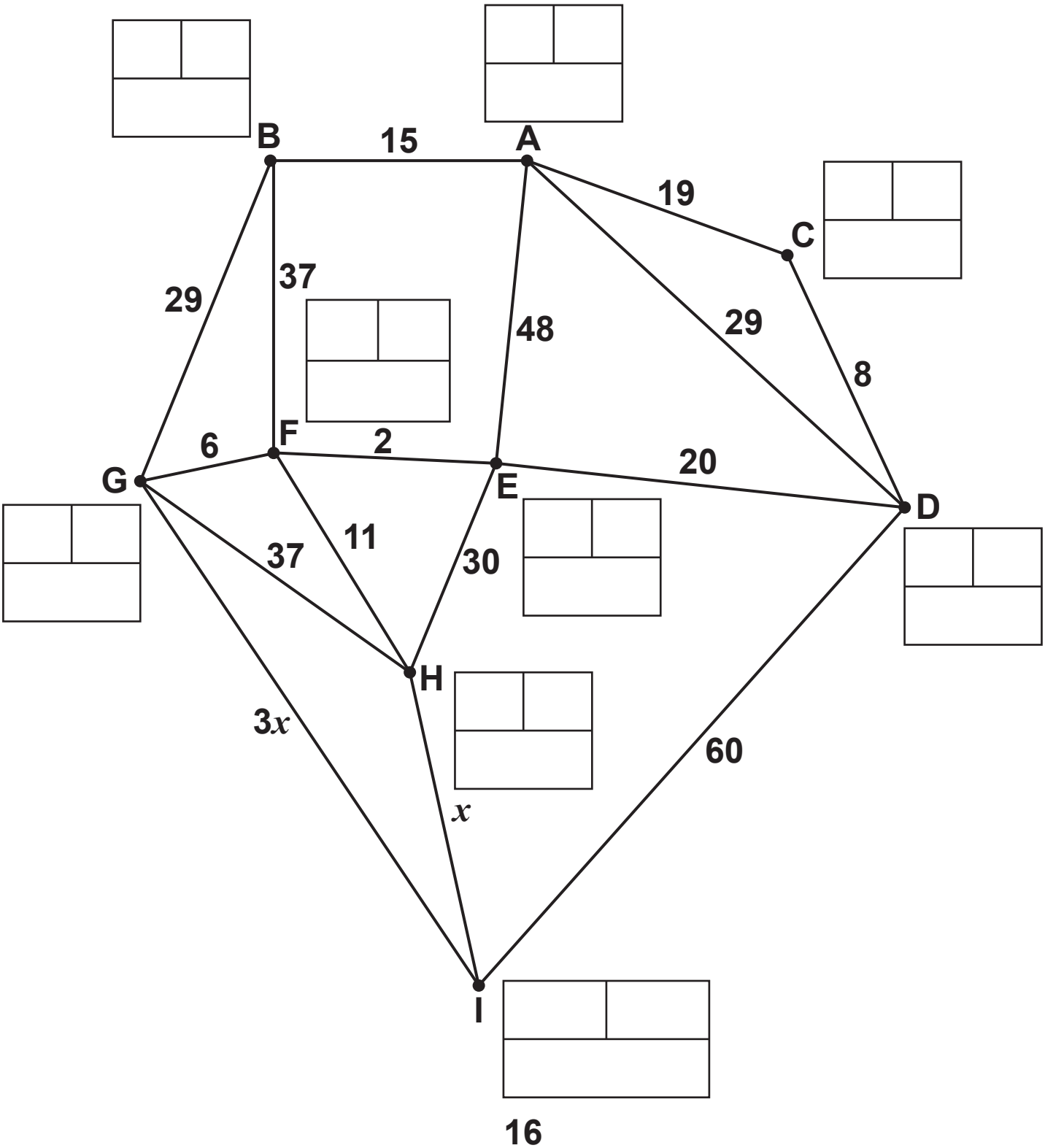
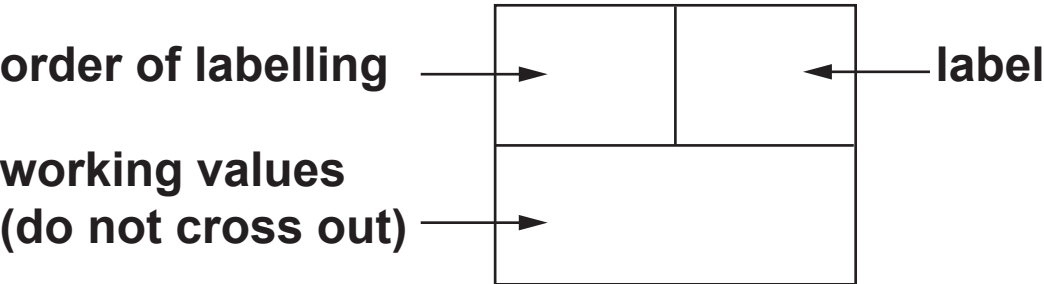
$k_1 =$ _____

$P =$ _____

$x =$ _____ $y =$ _____ $z =$ _____

5(a)

Key:



First shortest path from A to I: _____ Length: _____

Second shortest path from A to I: _____ Length: _____

Third shortest path from A to I: _____ Length: _____

5(b)(i)

5(b)(ii)

5(c)

[illegible]

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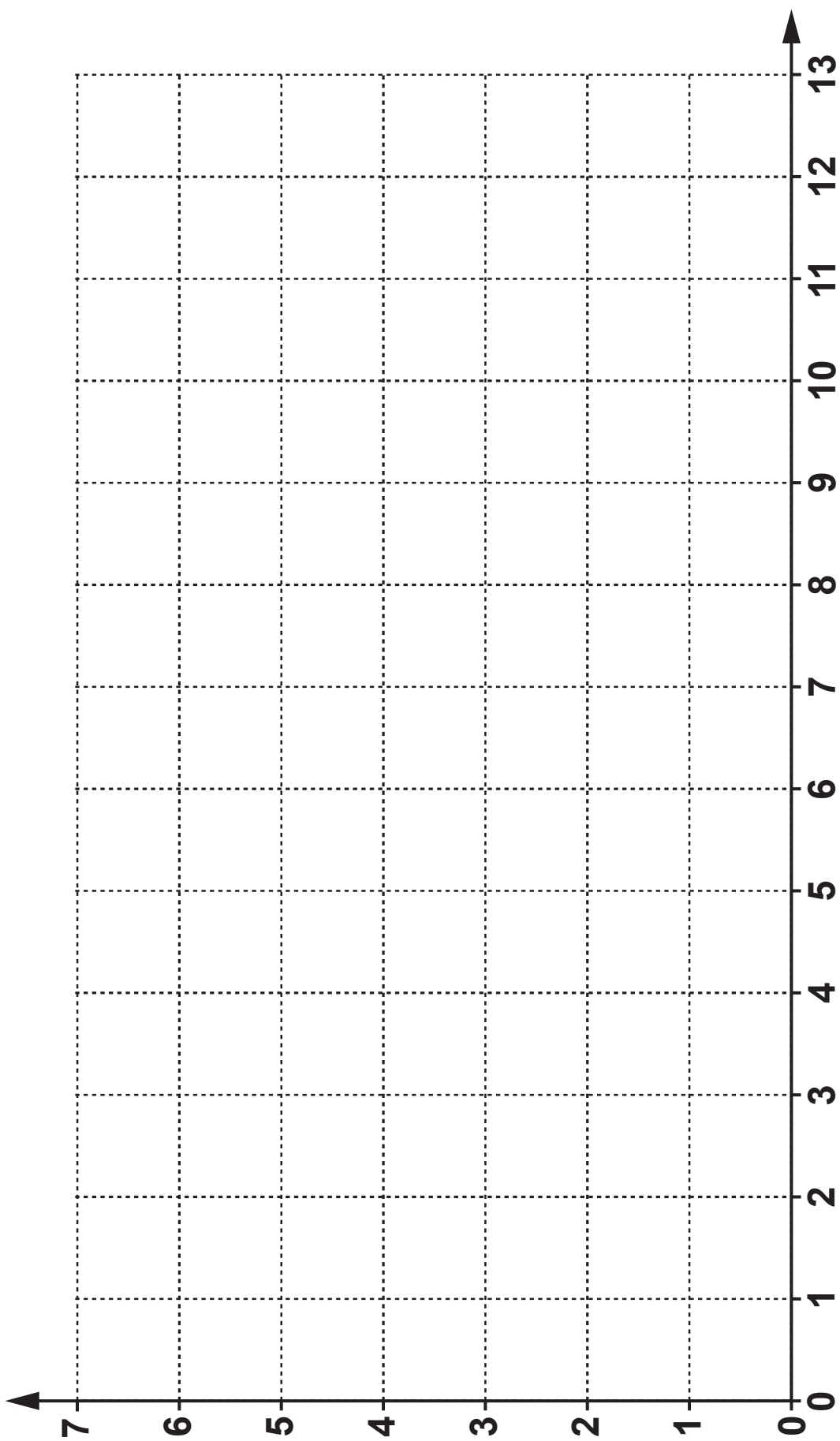
6(a)

6(b)

<i>Q</i>	<i>P</i>	<i>x</i>	<i>y</i>	<i>z</i>	<i>s</i> ₁	<i>s</i> ₂	<i>s</i> ₃	<i>s</i> ₄	<i>a</i> ₁	<i>a</i> ₂	RHS

6(c)

[illegible]



Maximum value of $P =$ _____

$x =$ _____ $y =$ _____

$z =$ _____

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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