

**OXFORD CAMBRIDGE AND RSA EXAMINATIONS
AS GCE**

4771/01

**MATHEMATICS (MEI)
Decision Mathematics 1
PRINTED ANSWER BOOK**

FRIDAY 25 JANUARY 2013: Afternoon

**DURATION: 1 hour 30 minutes
plus your additional time allowance**

MODIFIED ENLARGED 18pt

Candidate forename		Candidate surname	
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Centre number						Candidate number				
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Candidates answer on this Printed Answer Book.

OCR SUPPLIED MATERIALS:

**Question Paper 4771/01 (inserted)
MEI Examination Formulae and Tables (MF2)**

OTHER MATERIALS REQUIRED:

Scientific or graphical calculator

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

These instructions are the same on the Printed Answer Book and the Question Paper.

- **The Question Paper will be found in the centre of the Printed Answer Book.**
- **Write your name, centre number and candidate number in the spaces provided on the Printed Answer Book. Please write clearly and in capital letters.**
- **WRITE YOUR ANSWER TO EACH QUESTION IN THE SPACE PROVIDED IN THE PRINTED ANSWER BOOK.** Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).
- **Use black ink. HB pencil may be used for graphs and diagrams only.**
- **Read each question carefully. Make sure you know what you have to do before starting your answer.**
- **Answer ALL the questions.**
- **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.**

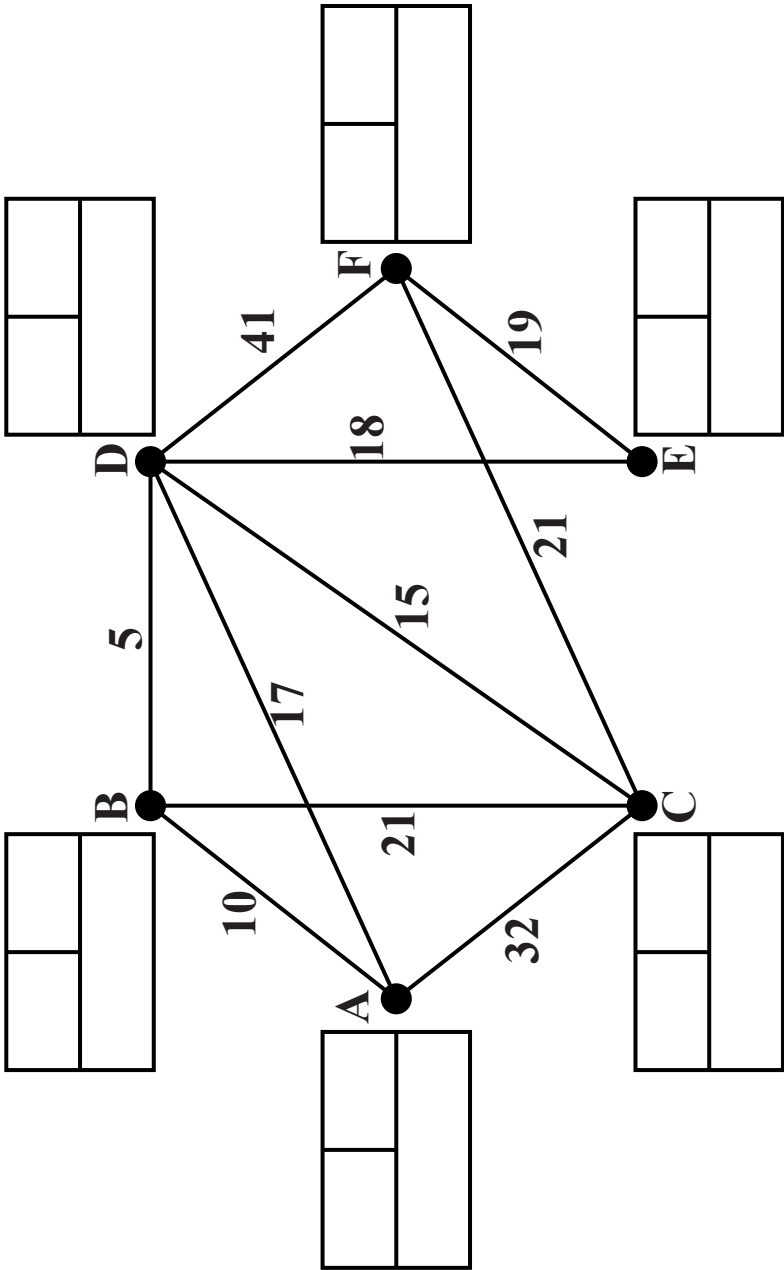
INFORMATION FOR CANDIDATES

This information is the same on the Printed Answer Book and the Question Paper.

- **The number of marks is given in brackets [] at the end of each question or part question on the Question Paper.**
- **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 being used.**
- **The total number of marks for this paper is 72.**
- **The Question Paper consists of 8 pages. Any blank pages are indicated.**

SECTION A (24 marks)

1 (i)



1 (ii)	<div> <div> <div>A</div> <div>●</div> </div> <div> <div>B</div> <div>●</div> </div> <div> <div>D</div> <div>●</div> </div> <div> <div>F</div> <div>●</div> </div> <div> <div>C</div> <div>●</div> </div> <div> <div>E</div> <div>●</div> </div> </div>

2 (i)																							
2 (ii)																							
2 (iii)	<table> <tr> <th>Men</th><th>Women</th></tr> <tr> <td>A ●</td><td>● V</td></tr> <tr> <td>B ●</td><td>● W</td></tr> <tr> <td>Charming ●</td><td>● Cinderella</td></tr> <tr> <td>Darcy ●</td><td>● Ugly sister 1</td></tr> <tr> <td>E ●</td><td>● Ugly sister 2</td></tr> <tr> <td>F ●</td><td>● Ugly sister 3</td></tr> <tr> <td>G ●</td><td>● Elizabeth</td></tr> <tr> <td>H ●</td><td>● X</td></tr> <tr> <td>I ●</td><td>● Y</td></tr> <tr> <td>J ●</td><td>● Z</td></tr> </table> <p>A spare copy of this diagram can be found on page 11.</p>	Men	Women	A ●	● V	B ●	● W	Charming ●	● Cinderella	Darcy ●	● Ugly sister 1	E ●	● Ugly sister 2	F ●	● Ugly sister 3	G ●	● Elizabeth	H ●	● X	I ●	● Y	J ●	● Z
Men	Women																						
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F ●	● Ugly sister 3																						
G ●	● Elizabeth																						
H ●	● X																						
I ●	● Y																						
J ●	● Z																						

2 (iv)	

3 (i)	

3 (ii)	

2 (iii)	<p>Spare copy of diagram for question 2 (iii)</p> <table> <tr> <th data-bbox="501 293 596 338">Men</th><th data-bbox="788 293 948 338">Women</th></tr> <tr> <td data-bbox="485 389 564 434">A ●</td><td data-bbox="852 389 932 434">● V</td></tr> <tr> <td data-bbox="485 486 564 530">B ●</td><td data-bbox="852 486 932 530">● W</td></tr> <tr> <td data-bbox="309 582 564 627">Charming ●</td><td data-bbox="852 582 1123 627">● Cinderella</td></tr> <tr> <td data-bbox="389 678 564 723">Darcy ●</td><td data-bbox="852 678 1155 723">● Ugly sister 1</td></tr> <tr> <td data-bbox="485 775 564 819">E ●</td><td data-bbox="852 775 1155 819">● Ugly sister 2</td></tr> <tr> <td data-bbox="485 871 564 916">F ●</td><td data-bbox="852 871 1155 916">● Ugly sister 3</td></tr> <tr> <td data-bbox="485 967 564 1012">G ●</td><td data-bbox="852 967 1091 1012">● Elizabeth</td></tr> <tr> <td data-bbox="485 1064 564 1108">H ●</td><td data-bbox="852 1064 932 1108">● X</td></tr> <tr> <td data-bbox="485 1160 564 1205">I ●</td><td data-bbox="852 1160 932 1205">● Y</td></tr> <tr> <td data-bbox="485 1256 564 1301">J ●</td><td data-bbox="852 1256 932 1301">● Z</td></tr> </table>	Men	Women	A ●	● V	B ●	● W	Charming ●	● Cinderella	Darcy ●	● Ugly sister 1	E ●	● Ugly sister 2	F ●	● Ugly sister 3	G ●	● Elizabeth	H ●	● X	I ●	● Y	J ●	● Z
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I ●	● Y																						
J ●	● Z																						

SECTION B (48 marks)

**4 (i)
& (ii)**

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4 (iii)

Each cell represents 5 minutes

[illegible]

(answer space continued on next page)

4 (iii)	(continued)
	Time to complete =
4 (iv)	

5 (i)																																				
5 (ii)	<table><tr><th>chair number</th><th>random digits</th><th>number of occupants</th></tr><tr><td>1</td><td>5</td><td></td></tr><tr><td>2</td><td>3</td><td></td></tr><tr><td>3</td><td>0</td><td></td></tr><tr><td>4</td><td>2</td><td></td></tr><tr><td>5</td><td>4</td><td></td></tr><tr><td>6</td><td>7</td><td></td></tr><tr><td>7</td><td>9</td><td></td></tr><tr><td>8</td><td>1</td><td></td></tr><tr><td>9</td><td>1</td><td></td></tr><tr><td>10</td><td>8</td><td></td></tr></table>			chair number	random digits	number of occupants	1	5		2	3		3	0		4	2		5	4		6	7		7	9		8	1		9	1		10	8	
	chair number	random digits	number of occupants																																	
	1	5																																		
	2	3																																		
	3	0																																		
	4	2																																		
	5	4																																		
	6	7																																		
	7	9																																		
	8	1																																		
	9	1																																		
	10	8																																		

5 (iii)	

5 (iv)	random digit		child (C) or adult (A)			
			occ1	occ2	occ3	occ4
	chair 1	6	2	3	3	
	chair 2	0	6	7	1	
	chair 3	9	5	2	1	
	chair 4	6	2	1	2	
	chair 5	2	1	3	8	
	chair 6	9	1	6	0	
	chair 7	1	4	6	6	
	chair 8	5	8	5	0	
	chair 9	6	1	3	5	
	chair 10	2	9	5	1	
number of children on 10 chairs =						
number of adults on 10 chairs =						

5 (v)	
5 (vi)	

5 (vii)	Random numbers:	23	65	07	99	37												
		45	47	86	71	17												
<table><tr><th>chair number</th><th>number of occupants</th></tr><tr><td>1</td><td></td></tr><tr><td>2</td><td></td></tr><tr><td>3</td><td></td></tr><tr><td>4</td><td></td></tr><tr><td>5</td><td></td></tr></table>		chair number	number of occupants	1		2		3		4		5						
chair number	number of occupants																	
1																		
2																		
3																		
4																		
5																		

5 (viii)

	occ1	occ2	occ3	occ4
chair 1	1	2	6	4
chair 2	9	2	3	6
chair 3	6	8	2	1
chair 4	8	0	2	9
chair 5	1	8	1	4

number of children on 5 chairs =

number of adults on 5 chairs =

total number of children on the chairlift =

total number of adults on the chairlift =

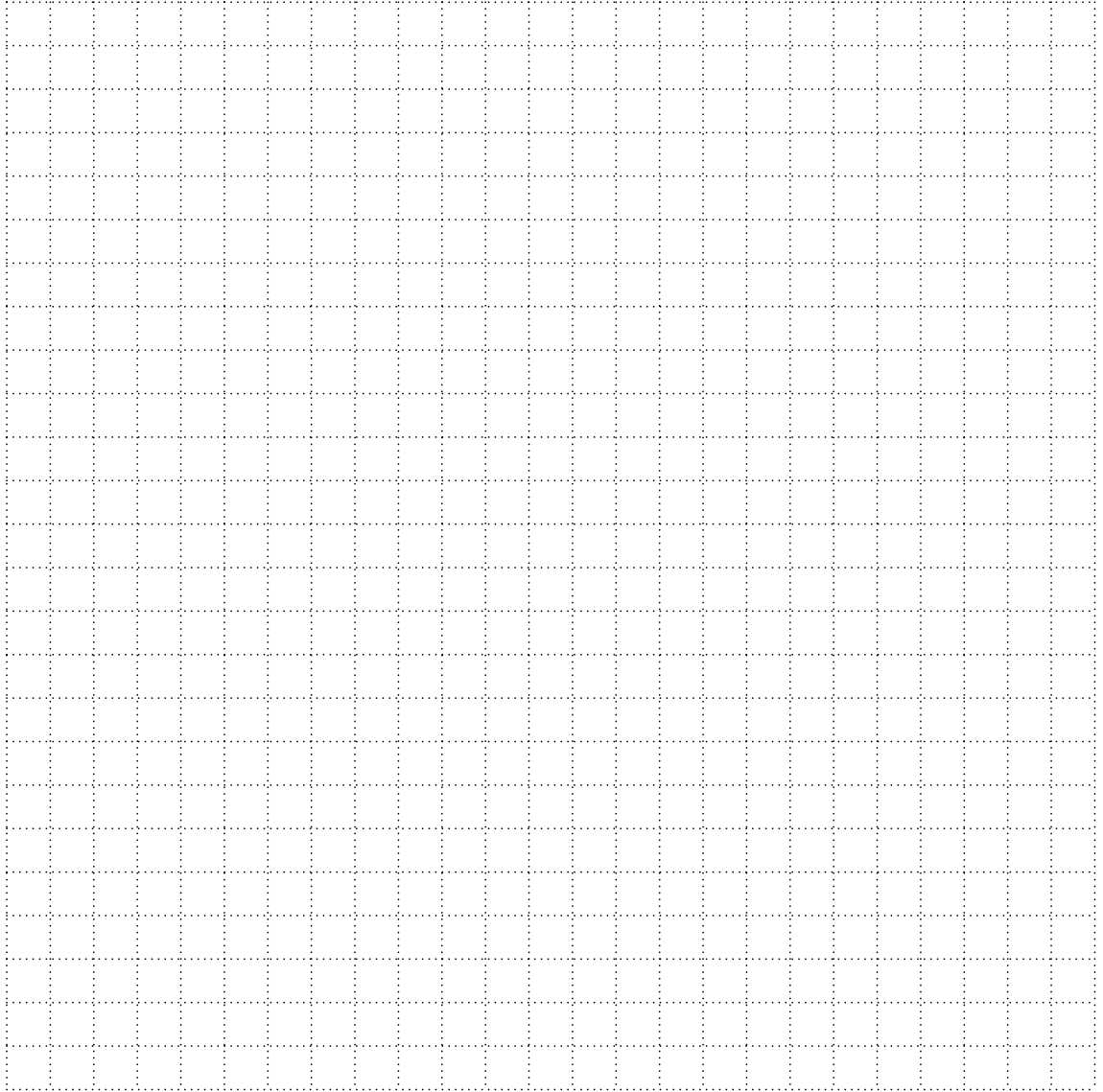
5 (ix)	

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6 (i)	
(answer space continued on next page)	

6 (i)

(continued)

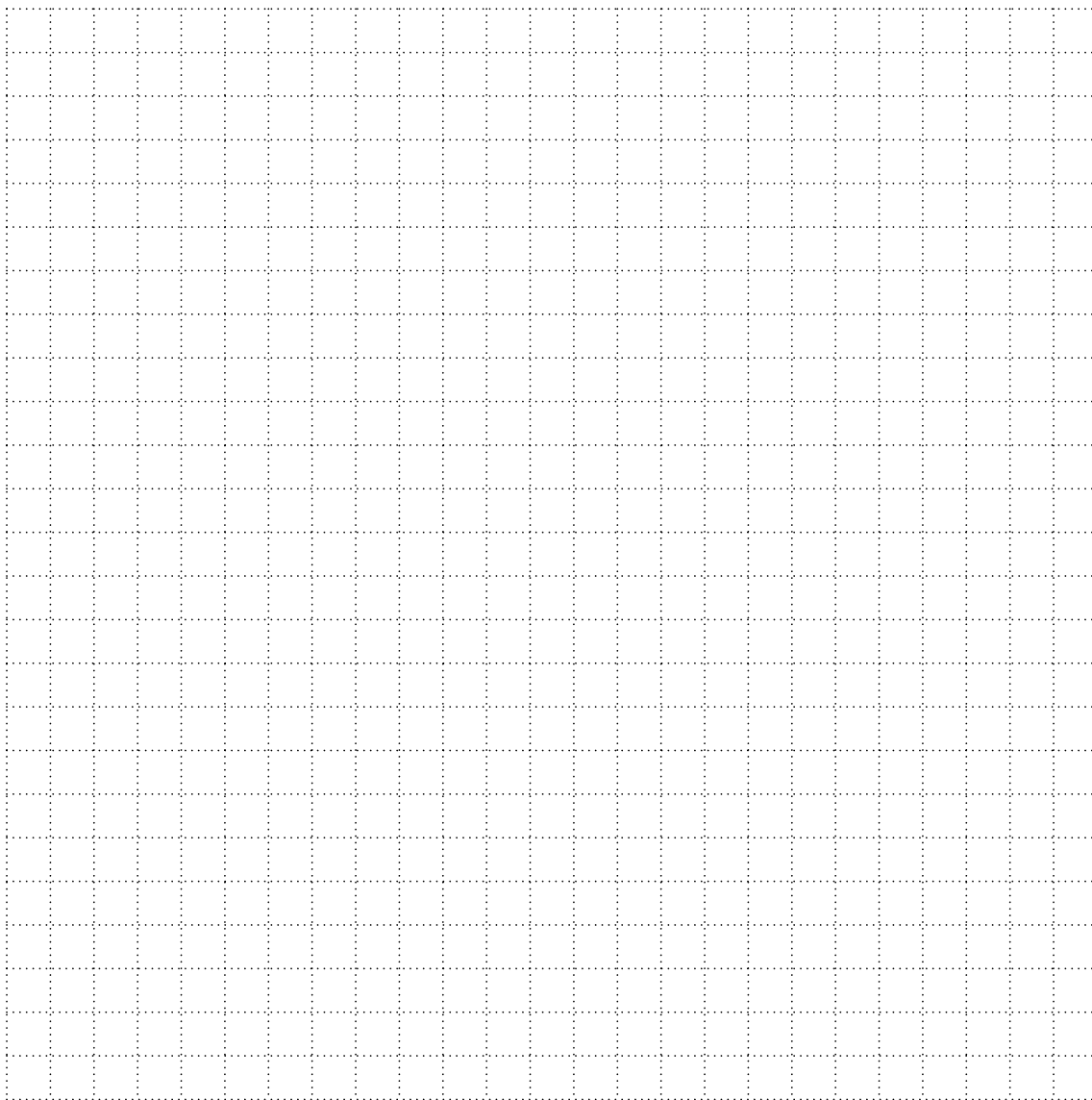


A spare copy of this graph paper can be found on page 28.

6 (ii)	

6 (iii)	

Spare copy of graph paper for 6 (i)



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