

**OCR**

Oxford Cambridge and RSA

**Wednesday 13 June 2018 – Morning****AS GCE MATHEMATICS (MEI)****4771/01** Decision Mathematics 1**PRINTED ANSWER BOOK**

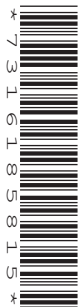
Candidates answer on this Printed Answer Book.

**OCR supplied materials:**

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

**Other materials required:**

- Scientific or graphical calculator

**Duration:** 1 hour 30 minutes

|                       |  |                      |  |
|-----------------------|--|----------------------|--|
| Candidate<br>forename |  | Candidate<br>surname |  |
| Centre number         |  | Candidate number     |  |

**INSTRUCTIONS TO CANDIDATES**

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

- The Question Paper will be found inside 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.
- Do **not** write in the barcodes.
- 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 Printed Answer Book consists of **12** pages. The Question Paper consists of **8** pages. Any blank pages are indicated.

|                |  |
|----------------|--|
| <b>1 (i)</b>   |  |
| <b>1 (ii)</b>  |  |
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| <b>1 (iii)</b> |  |
|                |  |
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| <b>1 (iv)</b>  |  |
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|                |  |
| <b>1 (v)</b>   |  |
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| <b>2 (a)(i)</b>  |  |
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| <b>2 (a)(ii)</b> |  |
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| <b>2 (b)(i)</b>  |  |
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| <b>2 (b)(ii)</b> |  |
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|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>3 (a)(i)</b>  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>3 (a)(ii)</b> | <p><b>Number of throws to get a 6.</b></p> <p>Run 1<br/> 5 3 4 9 8 7 1 3 2 3 7 2 3 2 7 2 6 4 4 0<br/> Number of throws:</p> <p>Run 2<br/> 6 0 3 5 8 4 6 5 2 8 7 2 1 4 9 7 4 4 6 2<br/> Number of throws:</p> <p>Run 3<br/> 1 7 2 0 5 0 7 4 5 0 7 3 1 1 5 9 6 2 8 1<br/> Number of throws:</p> <p>Run 4<br/> 0 7 5 2 0 3 7 8 0 9 9 6 1 0 1 7 4 1 2 6<br/> Number of throws:</p> <p>Run 5<br/> 0 3 0 8 3 0 3 9 4 8 6 4 1 0 6 2 5 3 7 1<br/> Number of throws:</p> <p>Run 6<br/> 3 7 1 1 4 9 5 8 5 5 5 2 9 9 0 0 1 6 5 8<br/> Number of throws:</p> <p>Run 7<br/> 5 6 2 4 7 0 6 8 4 7 3 2 9 6 2 6 9 7 1 0<br/> Number of throws:</p> <p style="text-align: right;"><b>(answer space continued on next page)</b></p> |

|                  |                                                                                                                                                                                                                                                                                                 |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>3(a)(ii)</b>  | <p><b>(continued)</b></p> <p>Run 8</p> <p>5 3 0 9 4 7 0 2 8 3 7 7 4 1 6 5 9 7 2 1</p> <p>Number of throws:</p><br><p>Run 9</p> <p>8 3 6 8 1 0 7 9 6 6 7 2 6 9 5 7 8 9 5 4</p> <p>Number of throws:</p><br><p>Run 10</p> <p>3 5 2 6 1 1 2 0 4 5 2 1 9 5 6 2 8 5 0 7</p> <p>Number of throws:</p> |
| <b>3(a)(iii)</b> |                                                                                                                                                                                                                                                                                                 |
| <b>3(b)(i)</b>   |                                                                                                                                                                                                                                                                                                 |
| <b>3(b)(ii)</b>  |                                                                                                                                                                                                                                                                                                 |
| <b>3(b)(iii)</b> |                                                                                                                                                                                                                                                                                                 |

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

**4(iii)**

One square represents 5 minutes

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| B |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| C |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| D |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| E |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| F |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| G |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| H |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| I |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| J |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| K |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

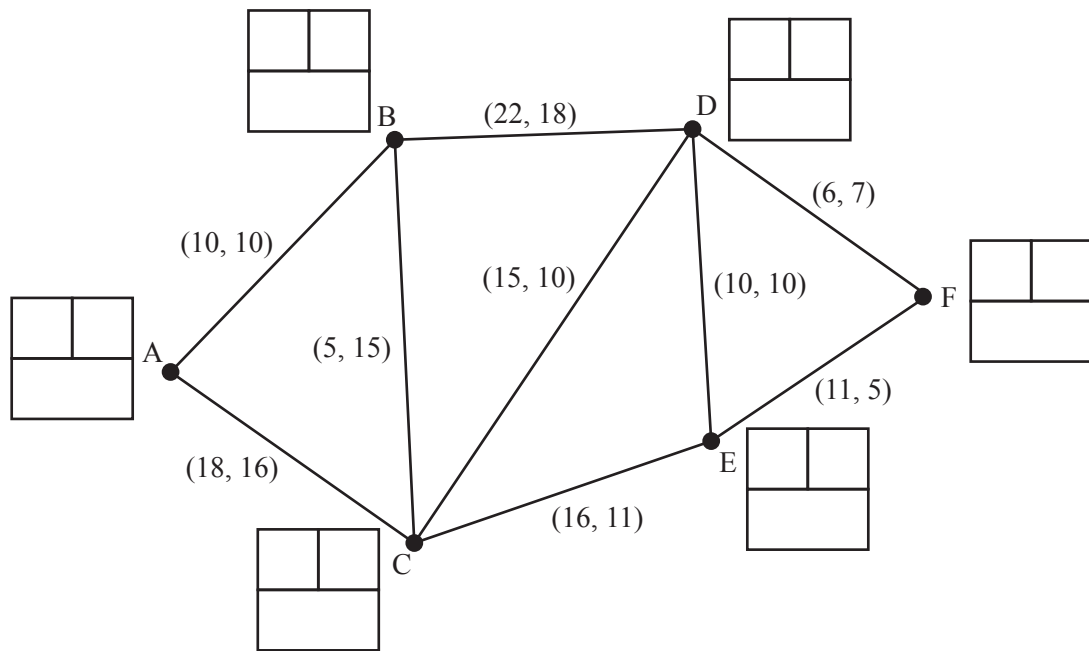
**4(iv)**

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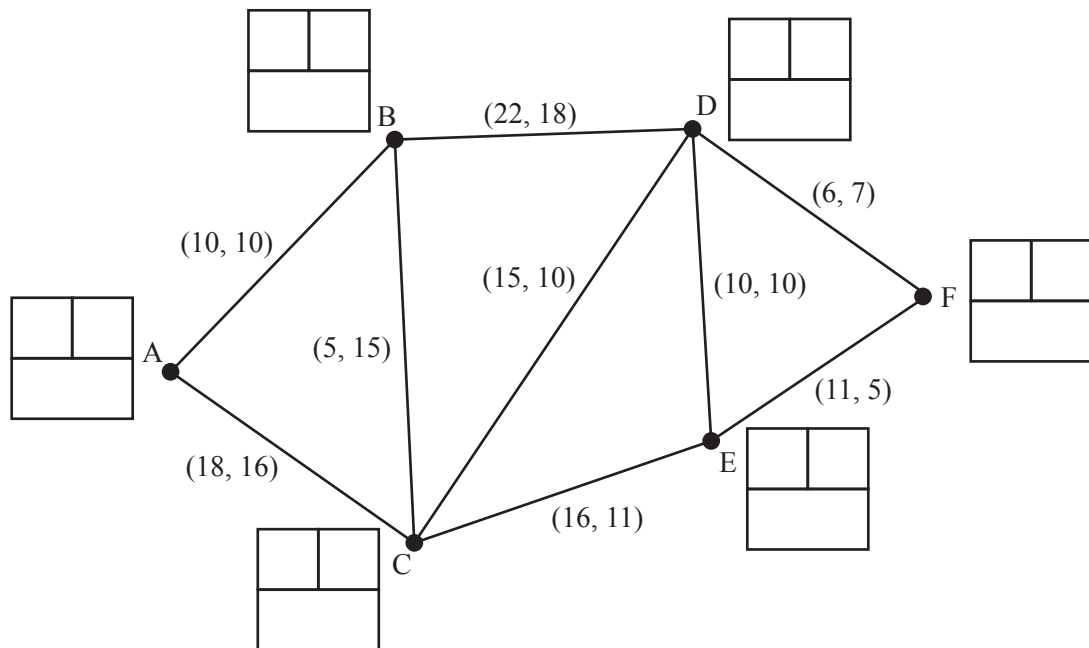
Spare grid for part (iii)

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| A |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| B |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| C |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| D |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| E |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| F |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| G |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| H |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| I |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| J |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| K |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

5(i)



5(ii)

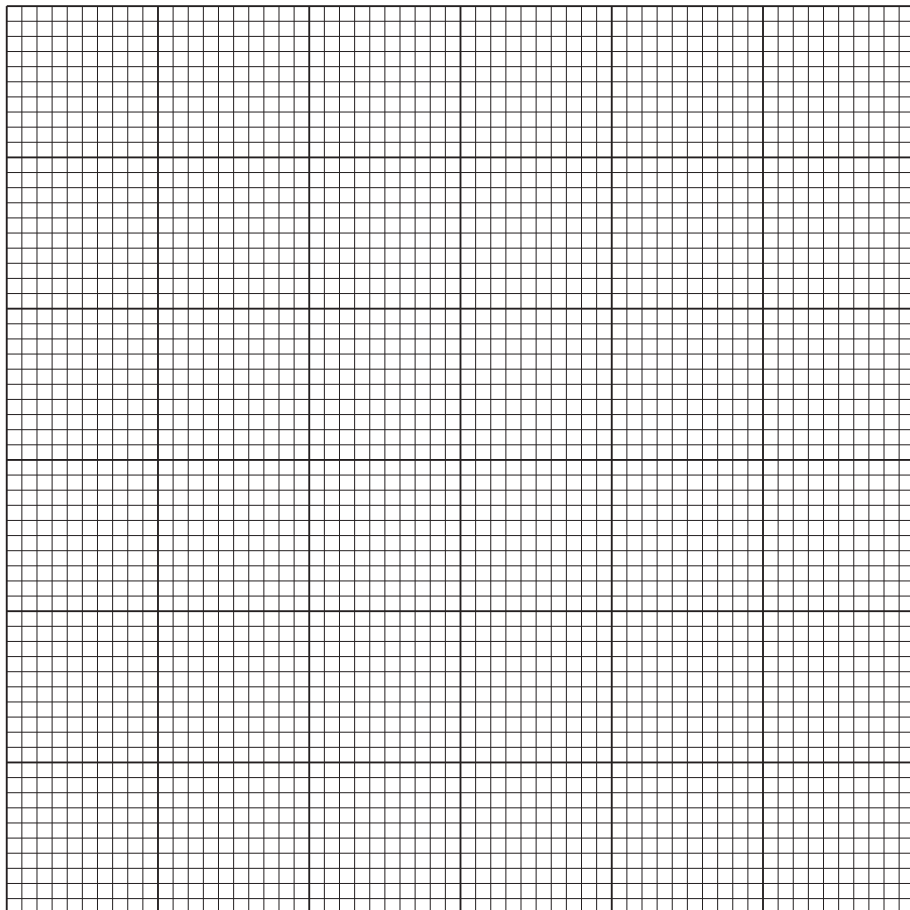


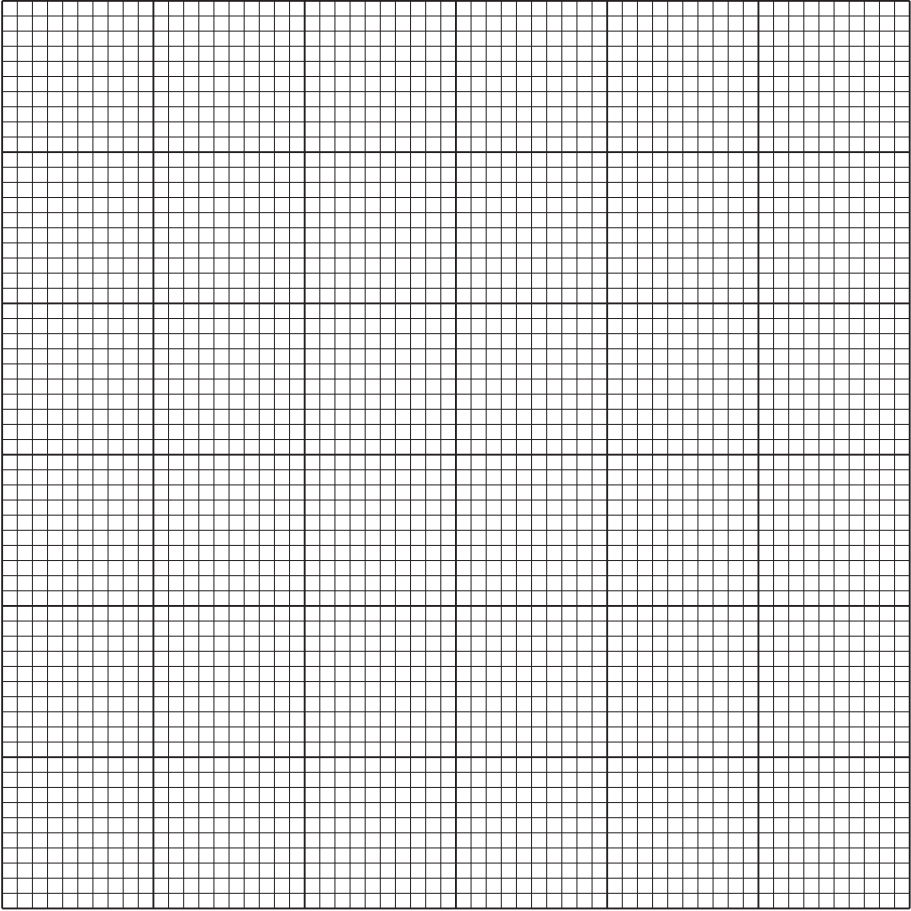


|               |  |
|---------------|--|
| <b>5(iii)</b> |  |
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| <b>5(iv)</b>  |  |
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|               |  |
| <b>5(v)</b>   |  |
| <b>5(vi)</b>  |  |
| <b>5(vii)</b> |  |
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**6(i)**

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**6(ii)**

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| <b>6(iii)</b> |                                                                                                                             |
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| <b>6(iv)</b>  |                                                                                                                             |
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|               |                                                                                                                             |
|               | <p>Spare grid for part <b>(ii)</b></p>  |

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