

**OXFORD CAMBRIDGE AND RSA EXAMINATIONS**  
**AS GCE**  
**4771/01**  
**MATHEMATICS (MEI)**  
**Decision Mathematics 1**  
**PRINTED ANSWER BOOK**  
**WEDNESDAY 13 JUNE 2018: Morning**  
**DURATION: 1 hour 30 minutes**  
**plus your additional time allowance**  
**MODIFIED ENLARGED 24pt**

<b>Candidate forename</b>		<b>Candidate surname</b>	
<b>Centre number</b>			

**Candidates answer on this Printed Answer Book.**

**OCR SUPPLIED MATERIALS:**  
**Question Paper 4771/01**  
**MEI Examination Formulae and Tables**  
**(MF2) sent with standard paper**

**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.**

**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.**

1 (i)	
1 (ii)	

1 (iii)	
1 (iv)	
1 (v)	

<b>2 (a)(i)</b>	
<b>2 (a)(ii)</b>	
<b>2 (b)(i)</b>	
<b>2 (b)(ii)</b>	

<b>3 (a)(i)</b>	
<b>3 (a)(ii)</b>	<p><b>Number of throws to get a 6.</b></p> <p><b>Run 1</b></p> <p>5 3 4 9 8 7 1 3 2 3 7 2 3 2 7 2 6 4 4 0</p> <p><b>Number of throws:</b></p> <p><b>Run 2</b></p> <p>6 0 3 5 8 4 6 5 2 8 7 2 1 4 9 7 4 4 6 2</p> <p><b>Number of throws:</b></p> <p><b>Run 3</b></p> <p>1 7 2 0 5 0 7 4 5 0 7 3 1 1 5 9 6 2 8 1</p> <p><b>Number of throws:</b></p> <p><b>Run 4</b></p> <p>0 7 5 2 0 3 7 8 0 9 9 6 1 0 1 7 4 1 2 6</p> <p><b>Number of throws:</b></p> <p><b>(answer space continued on next page)</b></p>

<b>3 (a)(ii)</b>	<p><b>(continued)</b></p> <p><b>Run 5</b></p> <p>0 3 0 8 3 0 3 9 4 8 6 4 1 0 6 2 5 3 7 1</p> <p><b>Number of throws:</b></p> <p><b>Run 6</b></p> <p>3 7 1 1 4 9 5 8 5 5 5 2 9 9 0 0 1 6 5 8</p> <p><b>Number of throws:</b></p> <p><b>Run 7</b></p> <p>5 6 2 4 7 0 6 8 4 7 3 2 9 6 2 6 9 7 1 0</p> <p><b>Number of throws:</b></p> <p><b>Run 8</b></p> <p>5 3 0 9 4 7 0 2 8 3 7 7 4 1 6 5 9 7 2 1</p> <p><b>Number of throws:</b></p> <p><b>Run 9</b></p> <p>8 3 6 8 1 0 7 9 6 6 7 2 6 9 5 7 8 9 5 4</p> <p><b>Number of throws:</b></p> <p><b>(answer space continued on next page)</b></p>
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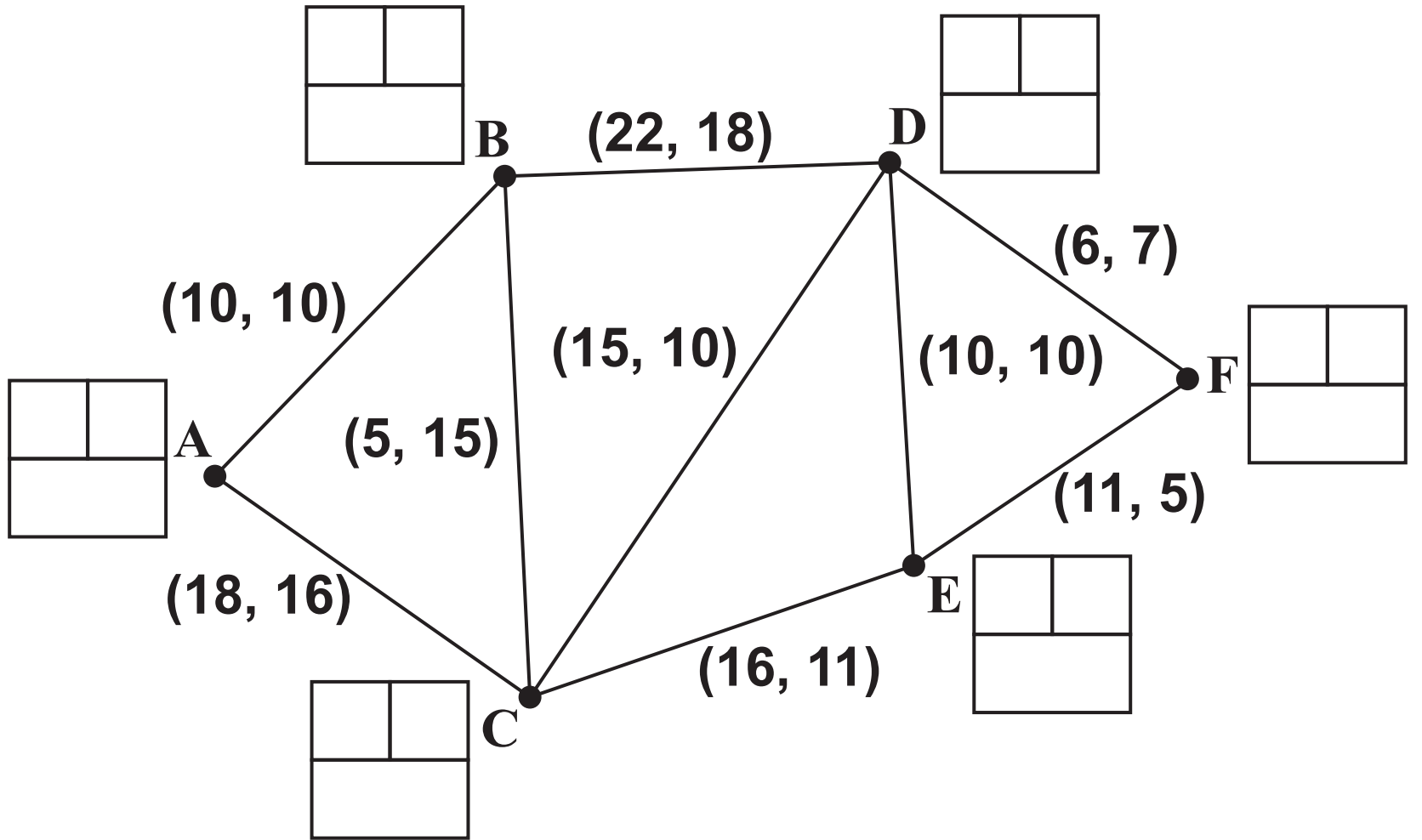
3 (a)(ii)	(continued)
	Run 10
	3 5 2 6 1 1 2 0 4 5 2 1 9 5 6 2 8 5 0 7
	Number of throws:
3 (a)(iii)	
3 (b)(i)	
3 (b)(ii)	

3 (b)(iii)	

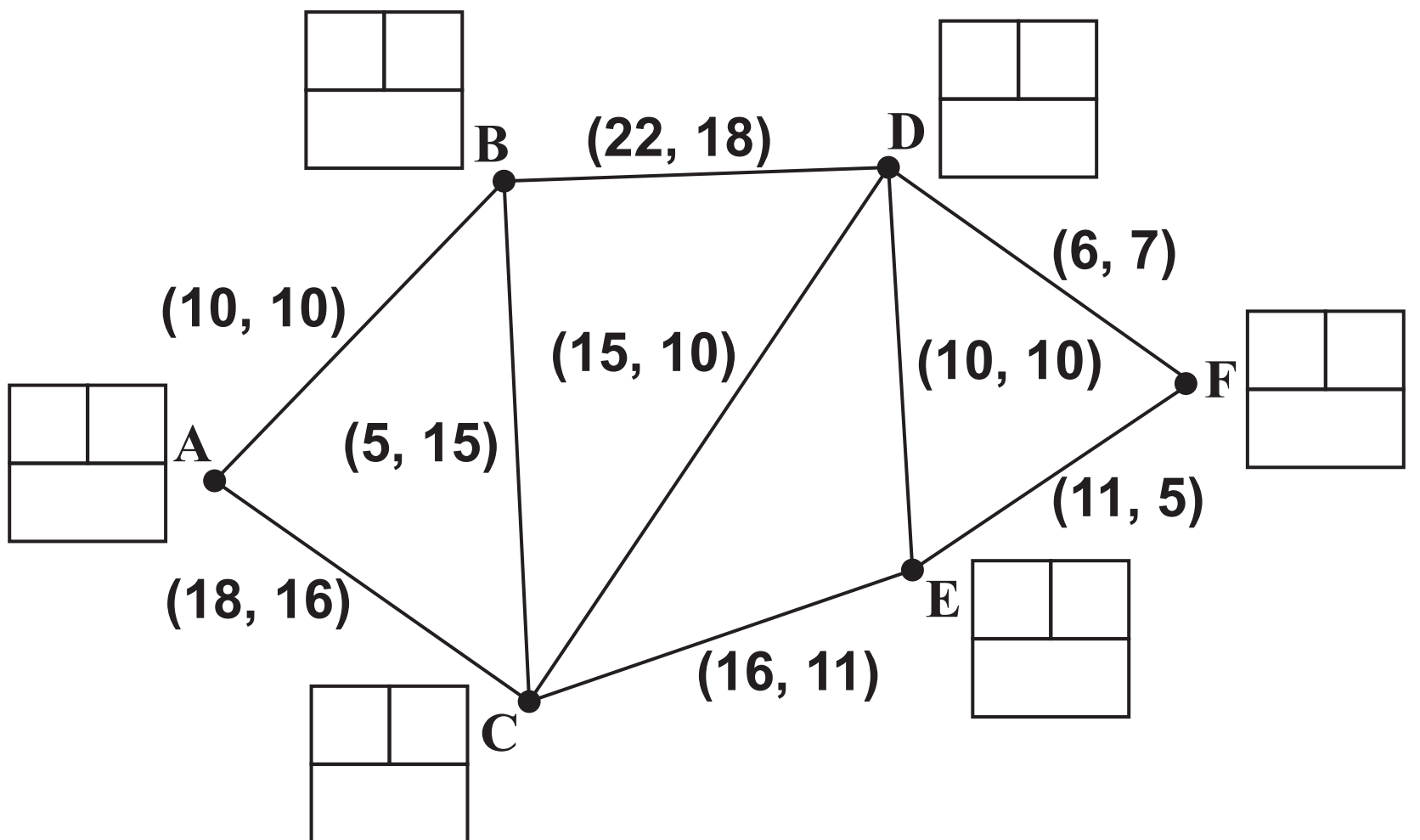
4 (i)&(ii)

4 (iii)	<div>One square represents 5 minutes</div> <div><div><div>A</div><div>B</div><div>C</div><div>D</div><div>E</div><div>F</div><div>G</div><div>H</div><div>I</div><div>J</div><div>K</div></div><table><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table></div>																																																																																																																																																																																																																																																												
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5 (i)



5 (ii)



5 (iii)	
5 (iv)	
5 (v)	

5 (vi)	
5 (vii)	

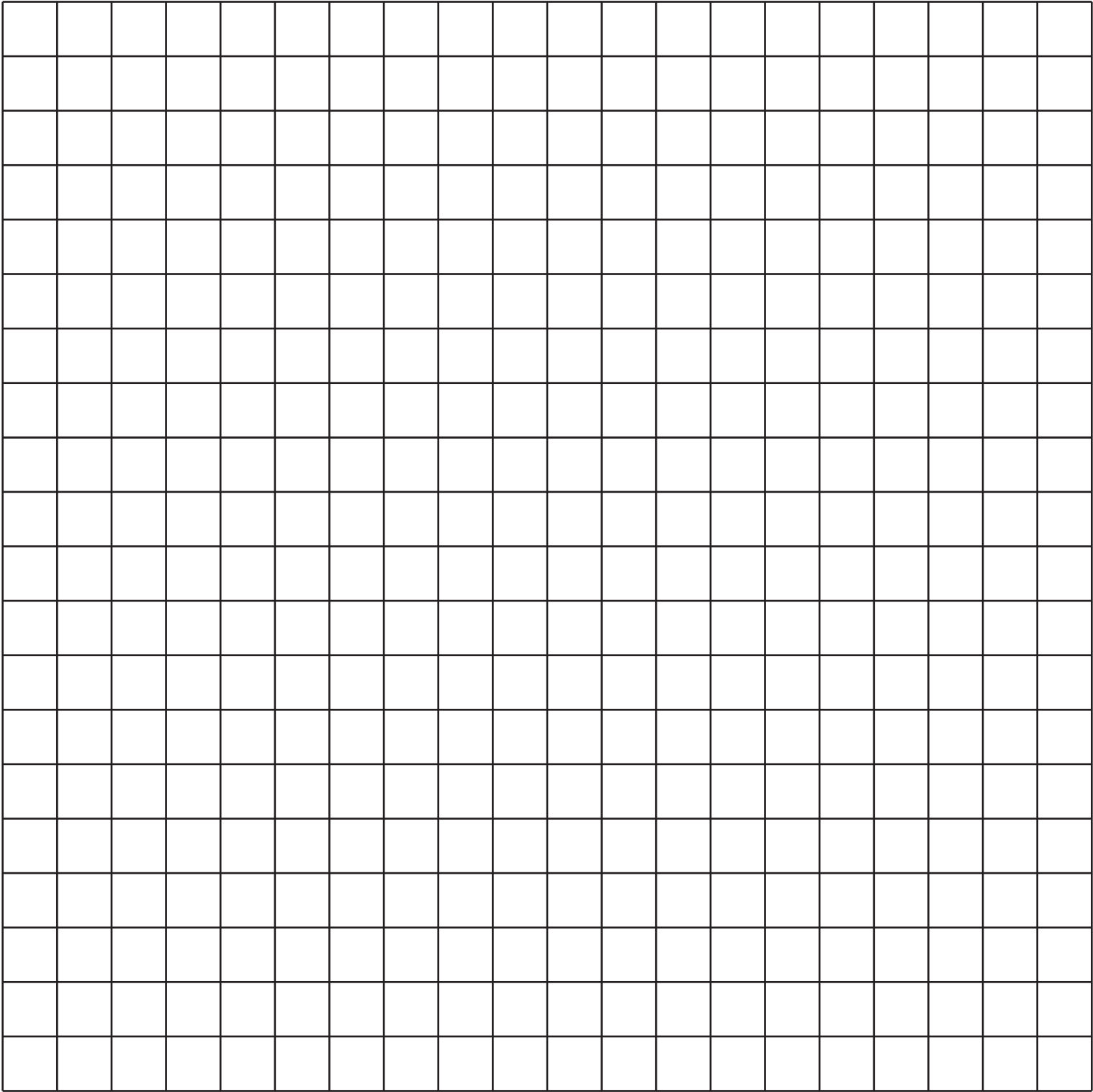
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<b>6 (ii)</b>	<table border="1"><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>																																																																																																																																																																																																																																																																																																																																																																																																																																																																											



6 (iii)	
6 (iv)	

Spare grid for part (ii)



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