

**OXFORD CAMBRIDGE AND RSA EXAMINATIONS  
AS GCE**

**4771/01**

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

**THURSDAY 6 JUNE 2013: Morning  
DURATION: 1 hour 30 minutes  
plus your additional time allowance**

**MODIFIED ENLARGED**

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

- **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. 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.**
- **Any blank pages are indicated.**

**SECTION A (24 marks)**

**1 (i)**

A ●                      ● B

D ●                      ● C

**1 (ii)**

<b>1 (iii)</b>	
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2 (i)

<i>i</i> th pass	9	7	3	11	5	13	comparisons	swaps
<i>i</i> =1							5	3
<i>i</i> =2								
<i>i</i> =3								
<i>i</i> =4								
<i>i</i> =5								

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

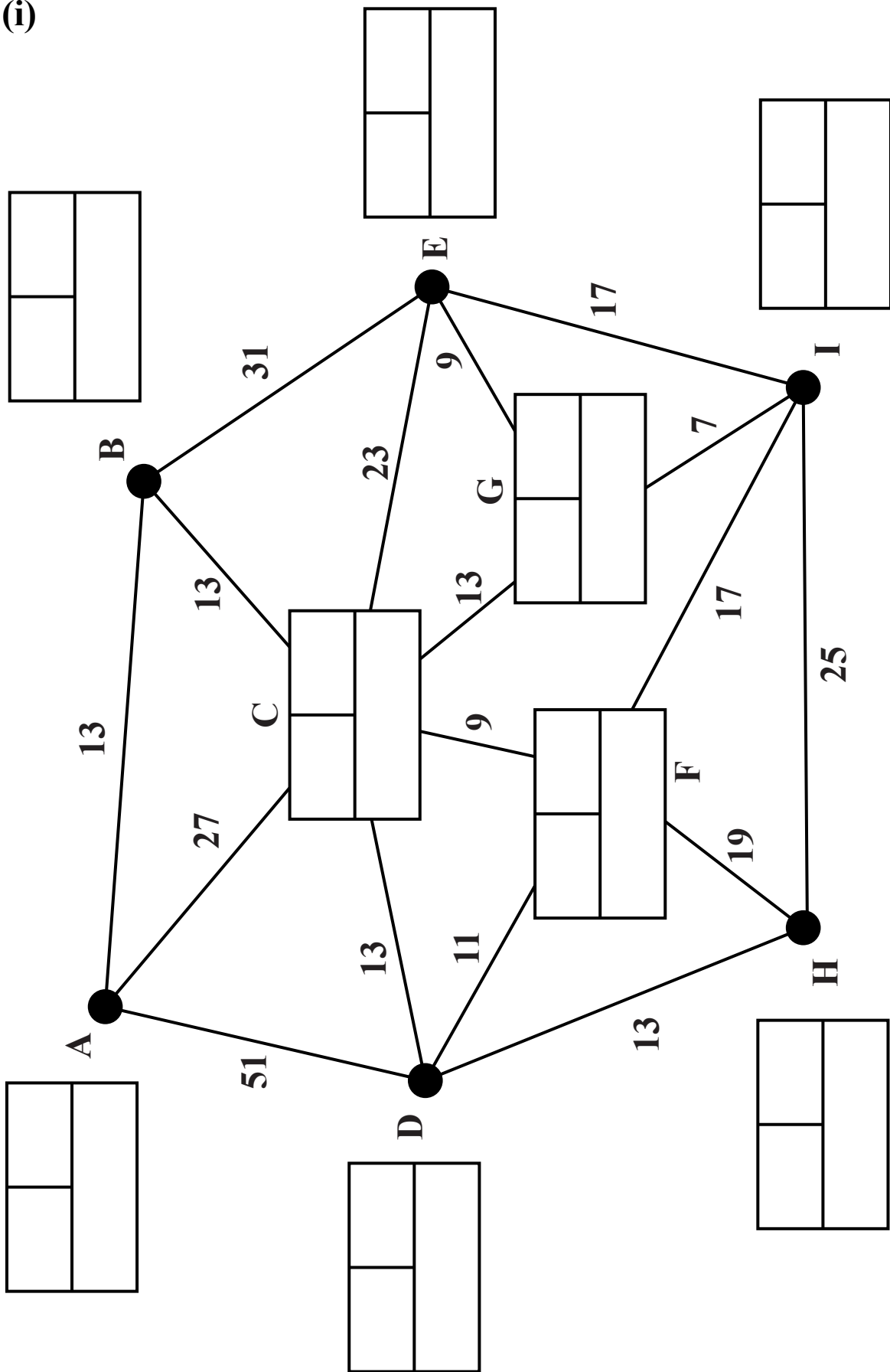
[illegible]



**BLANK PAGE**

**PLEASE DO NOT WRITE IN THIS SPACE**

3 (i)



**3 (i)**

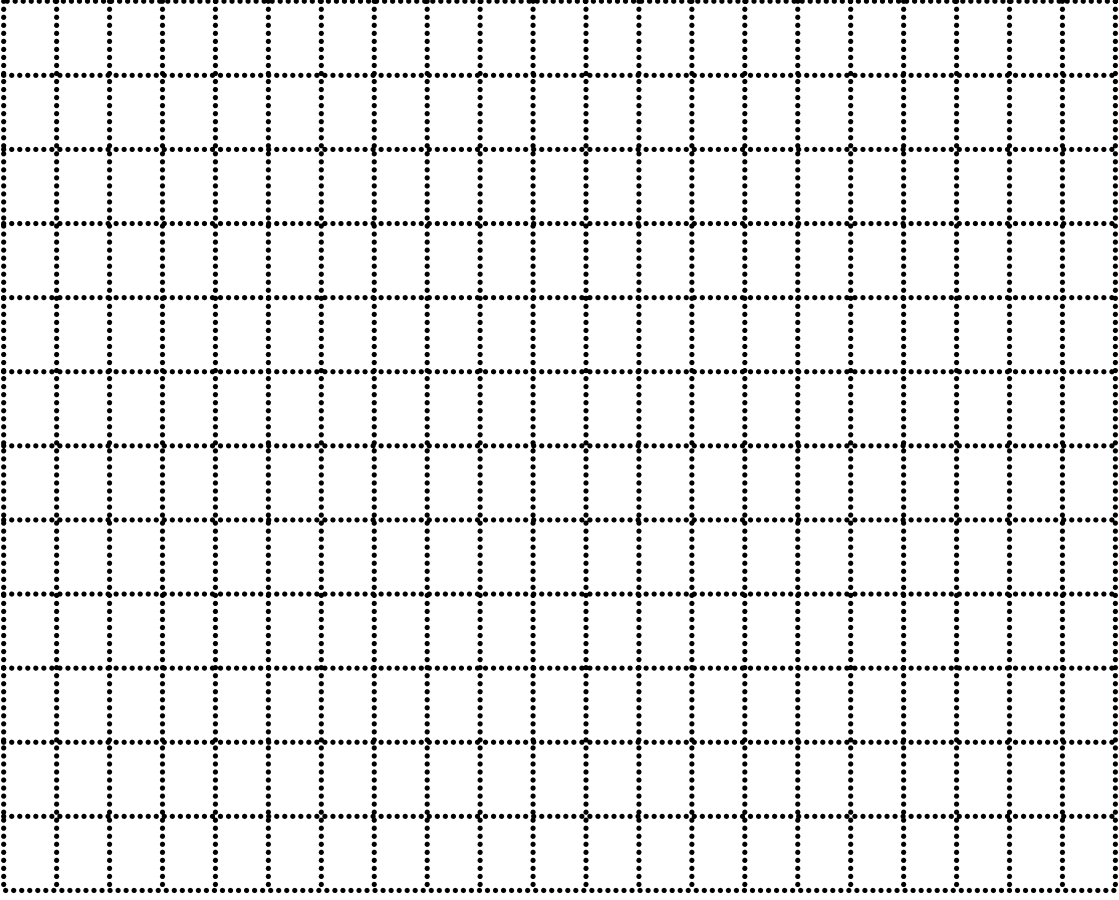
<b>From A to</b>	<b>Shortest route</b>	<b>Distance (miles)</b>
<b>B</b>		
<b>C</b>		
<b>D</b>		
<b>E</b>		
<b>F</b>		
<b>G</b>		
<b>H</b>		
<b>I</b>		

**There is a spare copy of the network and table on pages 20–21.**

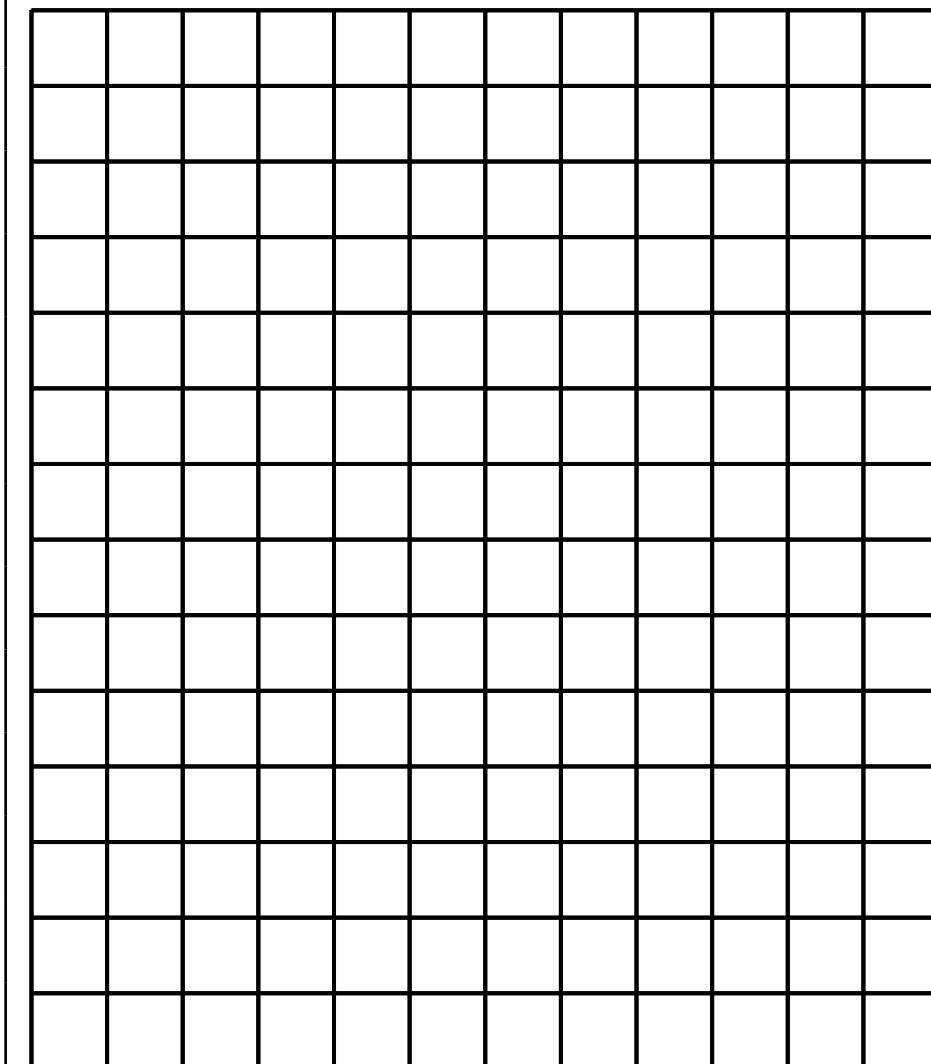
**3 (ii)**


**SECTION B (48 marks)**

<b>4 (i) &amp; (ii)</b>	

<b>4 (iii)</b>	
<b>4 (iv)</b>	
	<p><b>There is a spare copy of this grid on page 22.</b></p>

**5 (i)**



**There is a spare copy of this graph paper on page 23.**

<b>5 (ii)</b>	
<b>5 (iii)</b>	
<b>(answer space continued on next page)</b>	

<b>5 (iii)</b>	<b>(continued)</b>
<b>5(iv)</b>	



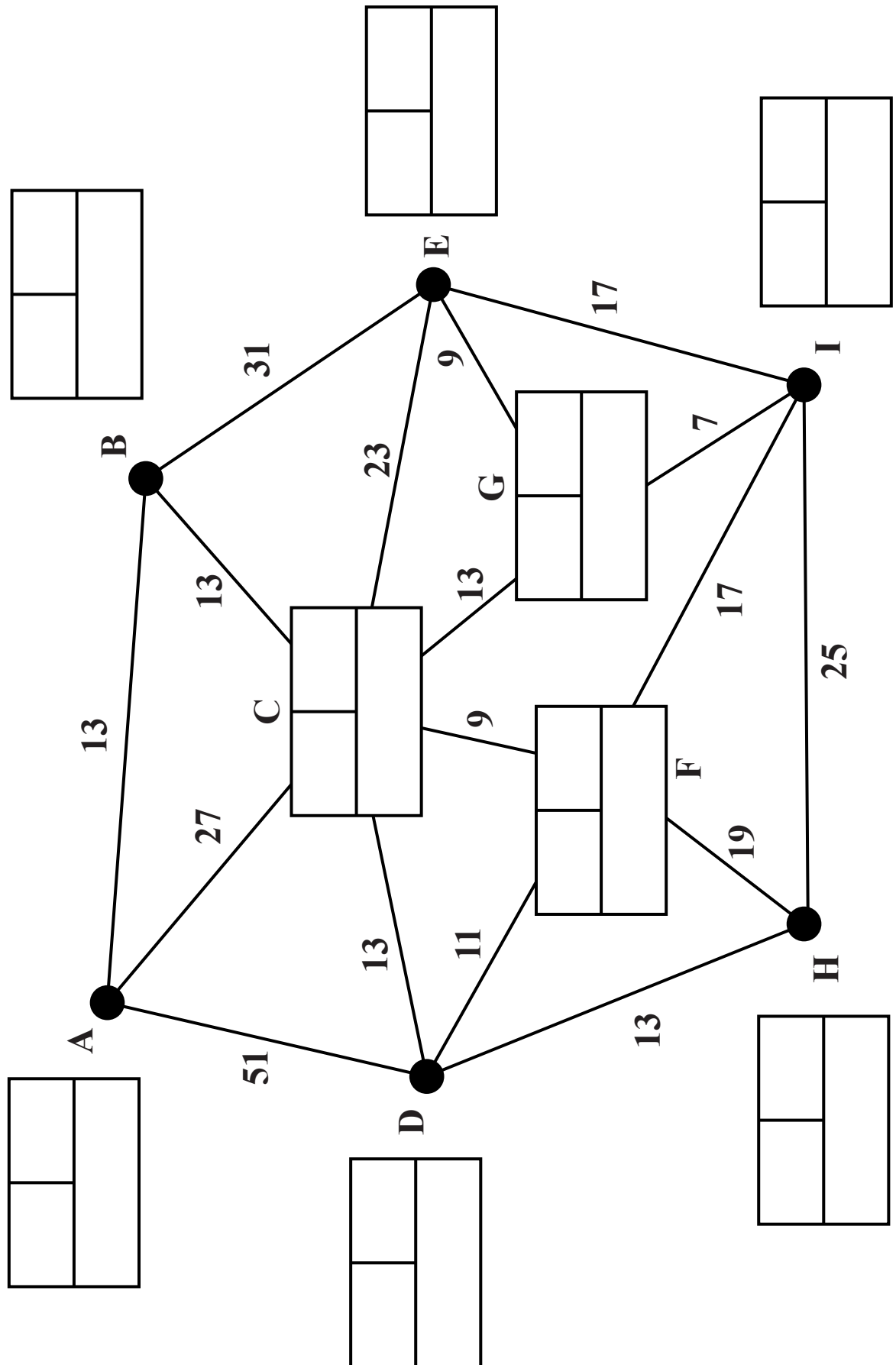
6 (i)

<

6 (iii)											
6 (iv)	<b>Random numbers: 23 15 98 01 32 45 47 86 71 17 83 31 45 37 05 21 90 06 54 22</b>										
	<b>customer number</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
	<b>processing time</b>										
6 (v)											

<b>6 (vi)</b>	<b>customer number</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
	<b>random number</b>	<b>8</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>2</b>	<b>5</b>	<b>7</b>	<b>6</b>
	<b>payment time</b>										
<b>6 (vii)</b>	<b>customer number</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
	<b>arrival</b>										
	<b>departure</b>										
<b>6 (viii)</b>	<b>customer number</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
	<b>arrival</b>										
	<b>departure</b>										

**3 (i) Spare copy of network and table for 3 (i).**

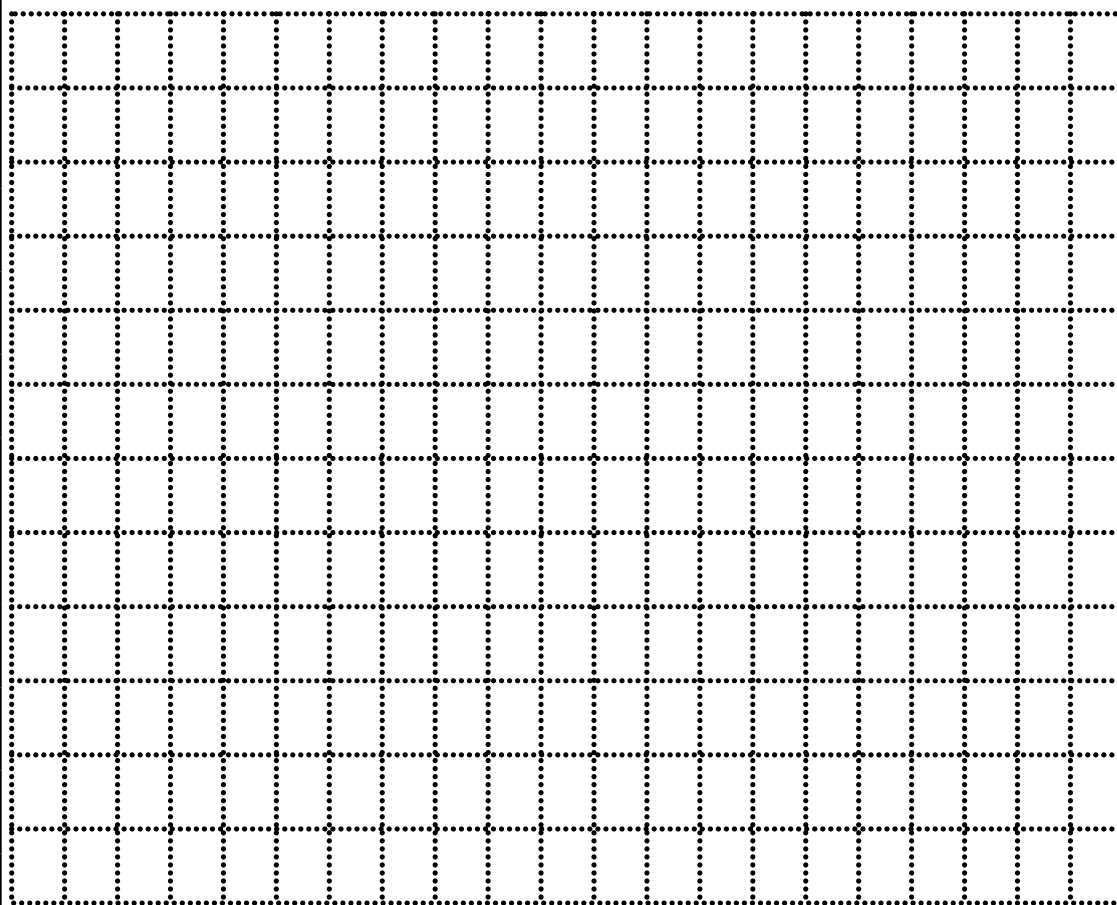


**3 (i)**

<b>From A to</b>	<b>Shortest route</b>	<b>Distance (miles)</b>
<b>B</b>		
<b>C</b>		
<b>D</b>		
<b>E</b>		
<b>F</b>		
<b>G</b>		
<b>H</b>		
<b>I</b>		

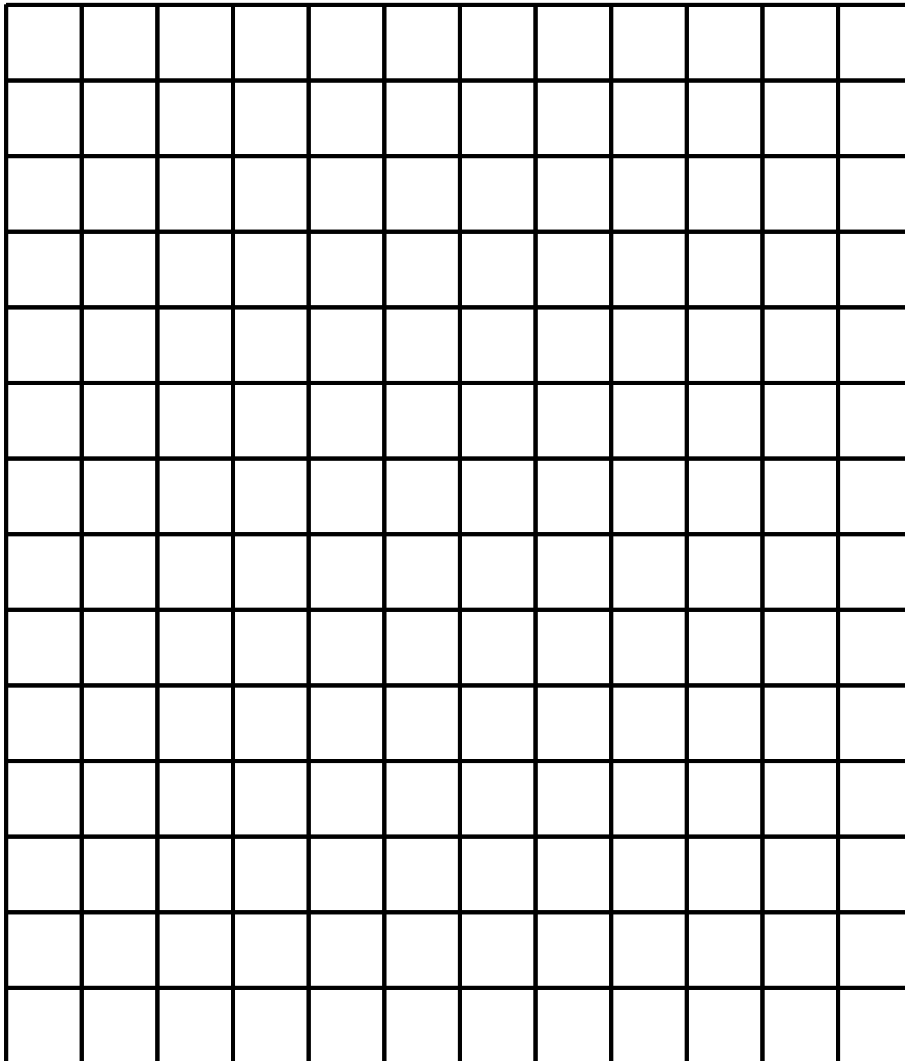
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**4 (iv) Spare copy of grid for 4 (iv).**



**PLEASE DO NOT WRITE IN THIS SPACE**

**5 (i) Spare copy of graph paper for 5 (i).**



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