



**ADVANCED SUBSIDIARY GCE UNIT  
MATHEMATICS (MEI)**

Decision Mathematics 1

**ANSWER BOOK**

**MONDAY 18 JUNE 2007**

**4771/01**

Morning  
Time: 1 hour 30 minutes

Candidate  
Name

Centre  
Number

--	--	--	--	--

Candidate  
Number

--	--	--	--

**INSTRUCTIONS TO CANDIDATES**

- Write your name, centre number and candidate number in the spaces provided above.
- Write your answers in the spaces provided on the answer book. If extra space is required use the blank page making sure that you label your work clearly.

For Examiner's Use	
Qu.	Mark
1	
2	
3	
4	
5	
6	
Total	

This answer book consists of **7** printed pages and **1** blank page.

1 (i)

(ii)

(iii)

(iv)

3

2 (i) Rucksack 1:

Rucksack 2:

Comment:

(ii) Order:

Rucksack 1:

Rucksack 2:

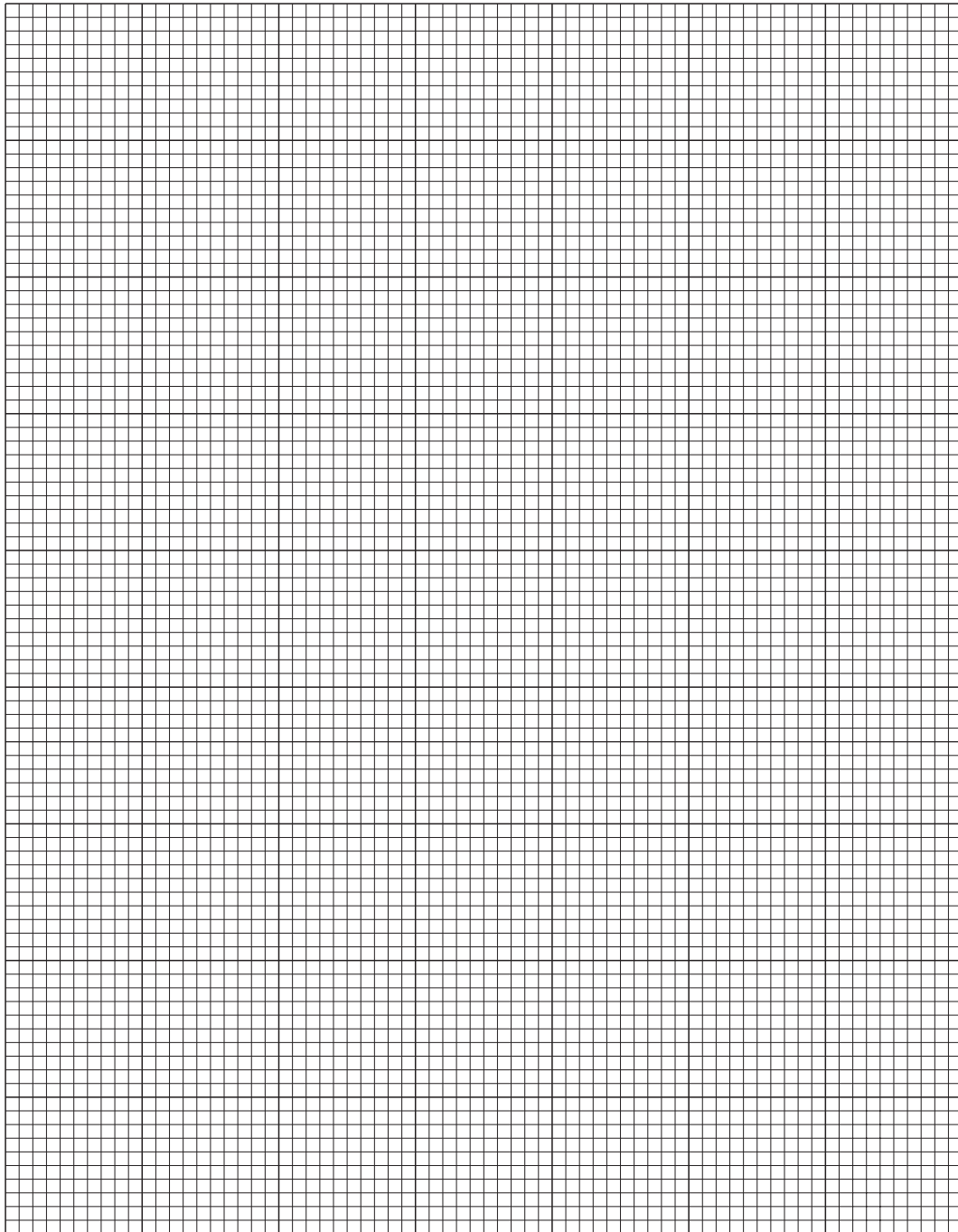
(iii) Rucksack 1:

Rucksack 2:

Explanation:

4

3



Maximum value of  $2x + 3y$ :

This occurs where  $x =$

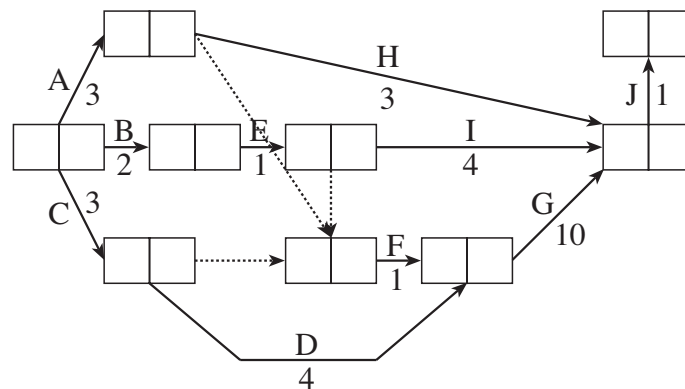
and where  $y =$

5

4 (i)

Activity		Duration (minutes)	Immediate predecessors
A	Rig foresail	3	
B	Lower sprayhood	2	
C	Start engine	3	
D	Pump out bilges	4	
E	Rig mainsail	1	
F	Cast off mooring ropes	1	
G	Motor out of harbour	10	
H	Raise foresail	3	
I	Raise mainsail	4	
J	Stop engine and start sailing	1	

(ii)



Project duration:

Critical activities:

(iii) Activities whilst motoring:

(iv) Minimum time:

Schedule for Colin:

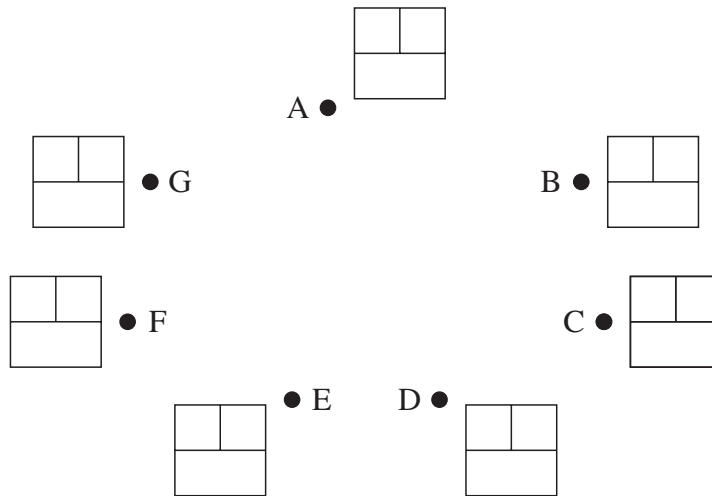
(v) Minimum time:

Schedule for Colin:

Schedule for crew member:

6

5 (i) & (ii)



Route:

Weight:

(iii) Route:

Weight:

Application:

(iv) Working value update

Next vertex to label

**6 (i) (A)**

**(B)**

**(C)**

**(ii)**

**(iii)**

**(iv)**

**(v)**

---

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (OCR) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

OCR is part of the Cambridge Assessment Group. Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.