Centre No.						Paper Reference							Surname	Initial(s)
Candidate No.						6	6	8	9	/	0	1	Signature	

Paper Reference(s)

6689/01

Edexcel GCE

Decision Mathematics D1

Advanced/Advanced Subsidiary

Wednesday 23 January 2013 – Morning

Examiner's use only

Team Leader's use only

Question Number	Leave Blank
1	
2	
3	
4	
5	
6	
7	
Total	

Answer Book

Do not return the question paper with the answer book

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P 4 1 4 9 0 A 0 1 1 6

Turn over

PEARSON

Leave blank

1. *You may not need to use all the rows in this table*

N	E	R	Is $-10^{-6} < R - E < 10^{-6}$?

Final output _____

P 4 1 4 9 0 A 0 2 1 6

Leave blank

Question 1 continued

Q1

(Total 6 marks)

P 4 1 4 9 0 A 0 3 1 6

Turn over

Leave blank

2.

Leave blank

Question 2 continued

Q2

(Total 6 marks)

Leave blank

3.

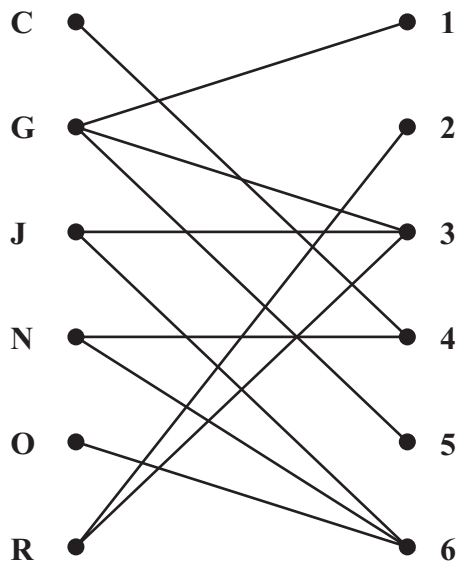


Figure 2

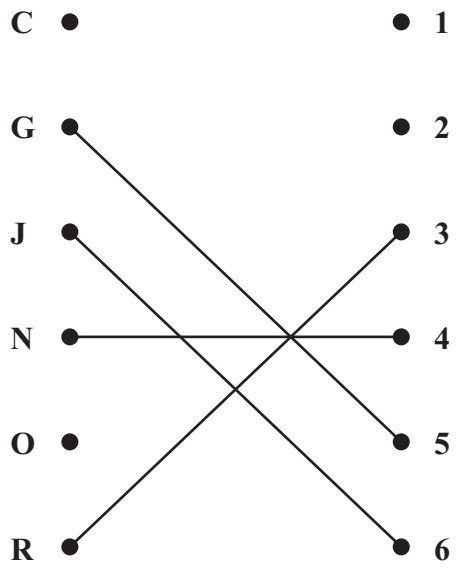


Figure 3

P 4 1 4 9 0 A 0 6 1 6

Leave blank

Question 3 continued

C ●	● **1**	**C** ●	● **1**
G ●	● **2**	**G** ●	● **2**
J ●	● **3**	**J** ●	● **3**
N ●	● **4**	**N** ●	● **4**
O ●	● **5**	**O** ●	● **5**
R ●	● **6**	**R** ●	● **6**

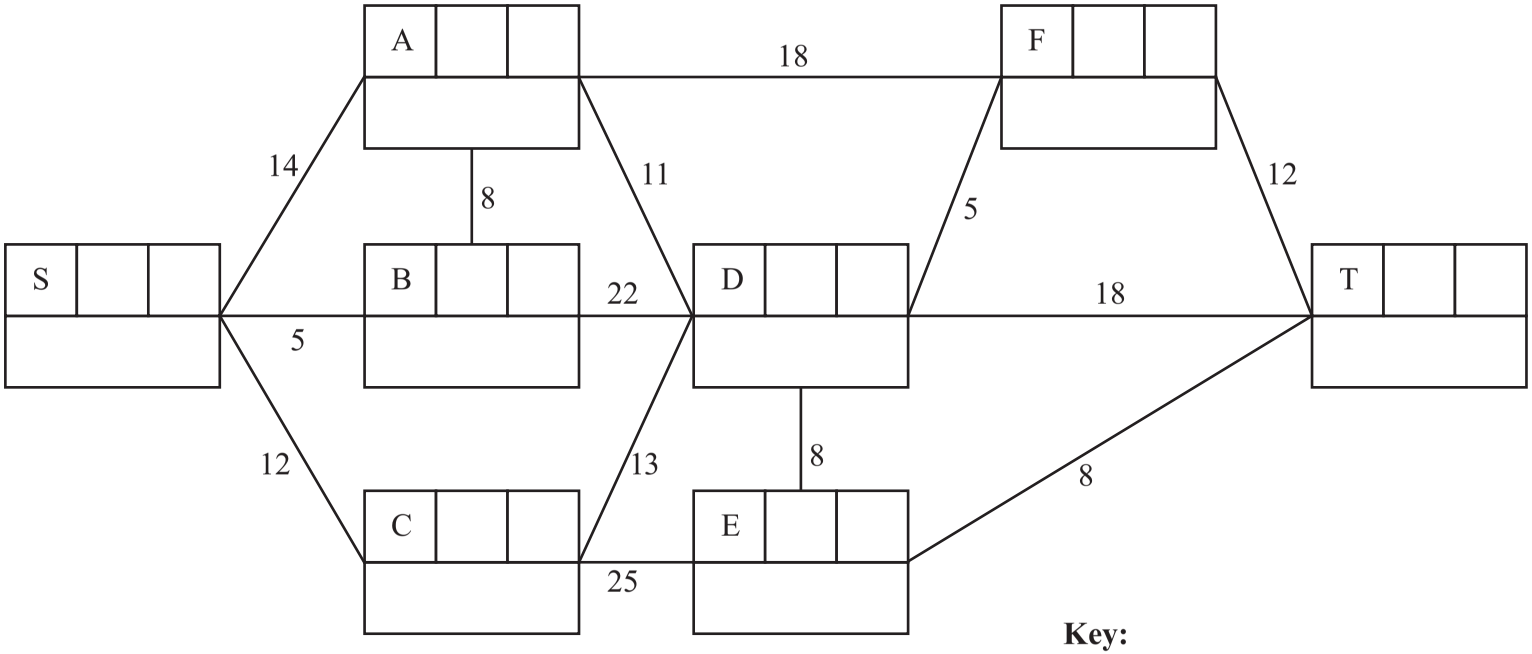
Q3

(Total 8 marks)

4. (a) _____

_____

(b)



Key:

Vertex	Order of labelling	Final value
Working value		

Shortest path _____

Length of shortest path _____

Leave blank

Question 4 continued

(c) Shortest distance from S to F _____

(d) _____

(Total 11 marks)

Q4

Leave blank

Leave blank

5.

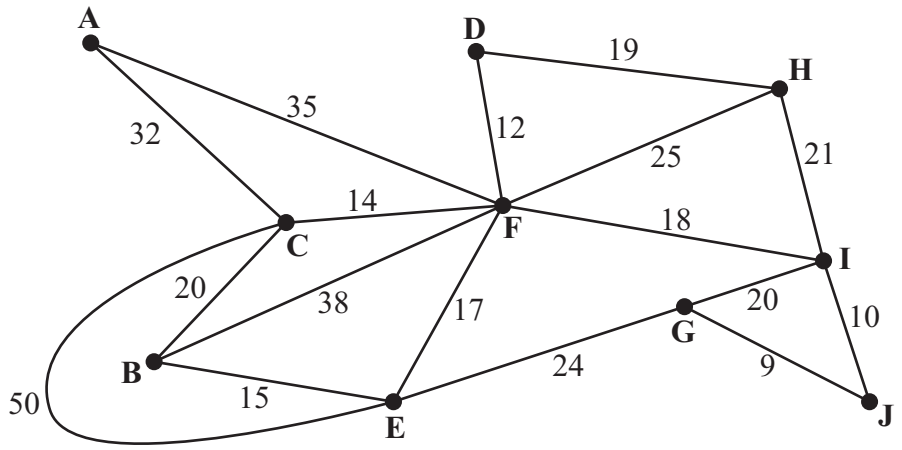


Figure 5

[The weight of the network is 379]

P 4 1 4 9 0 A 0 1 0 1 6

Leave blank

Question 5 continued

Q5

(Total 15 marks)

P 4 1 4 9 0 A 0 1 1 1 6

Turn over

Leave blank

6.

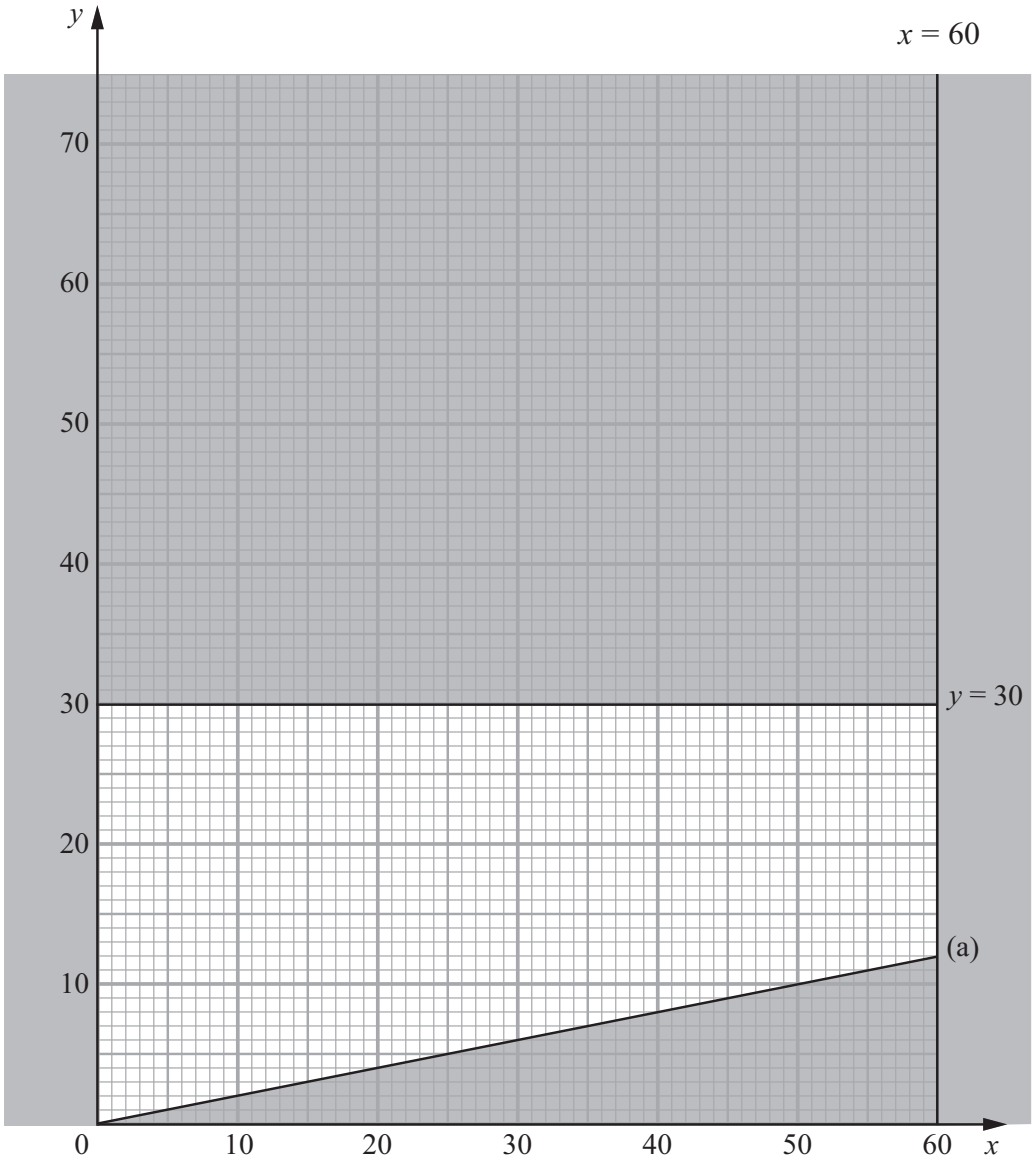


Diagram 1

P 4 1 4 9 0 A 0 1 2 1 6

Leave blank

Question 6 continued

Q6

(Total 13 marks)

P 4 1 4 9 0 A 0 1 3 1 6

Turn over

Leave blank

7. (a) _____

_____

_____

(b)

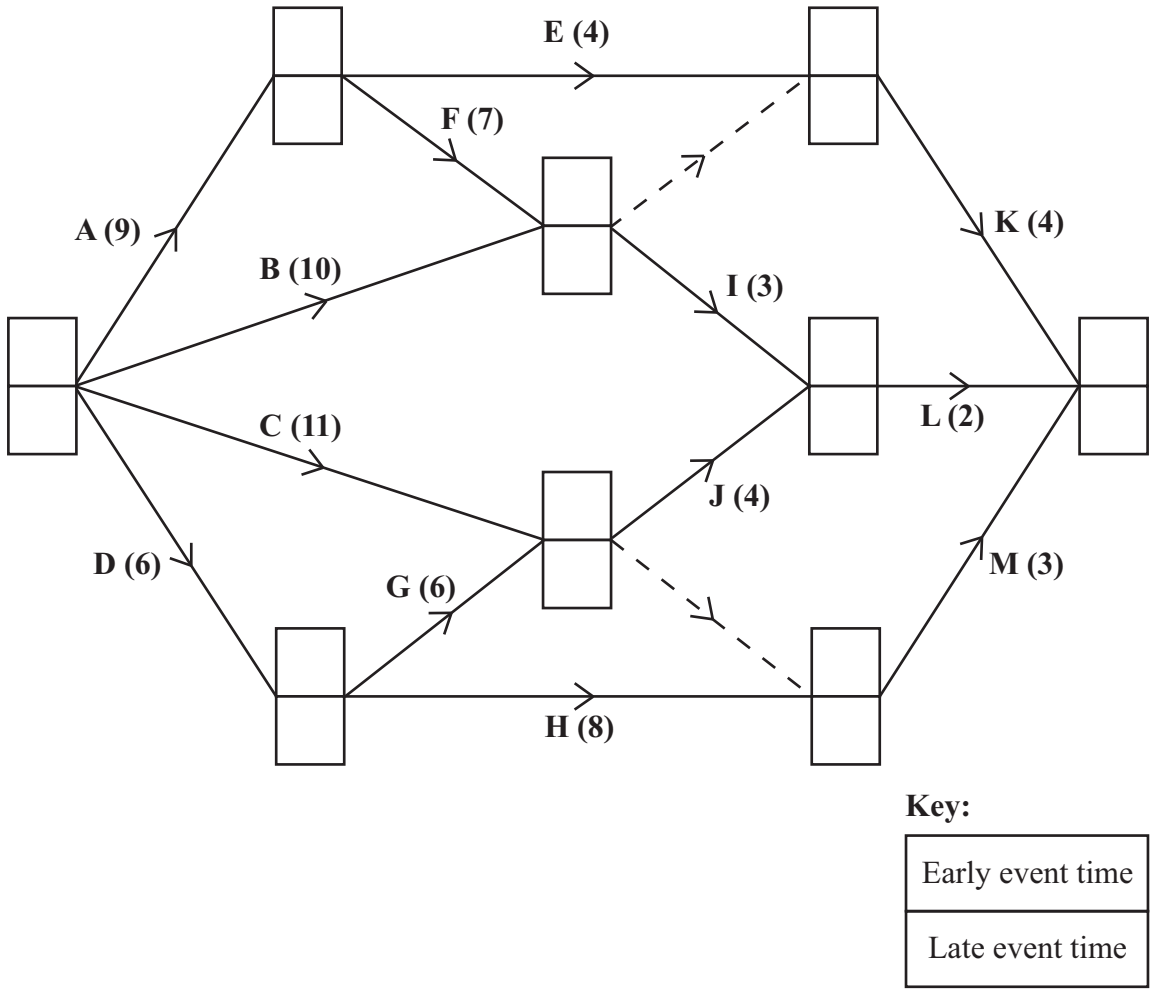


Diagram 1

P 4 1 4 9 0 A 0 1 4 1 6

Leave blank

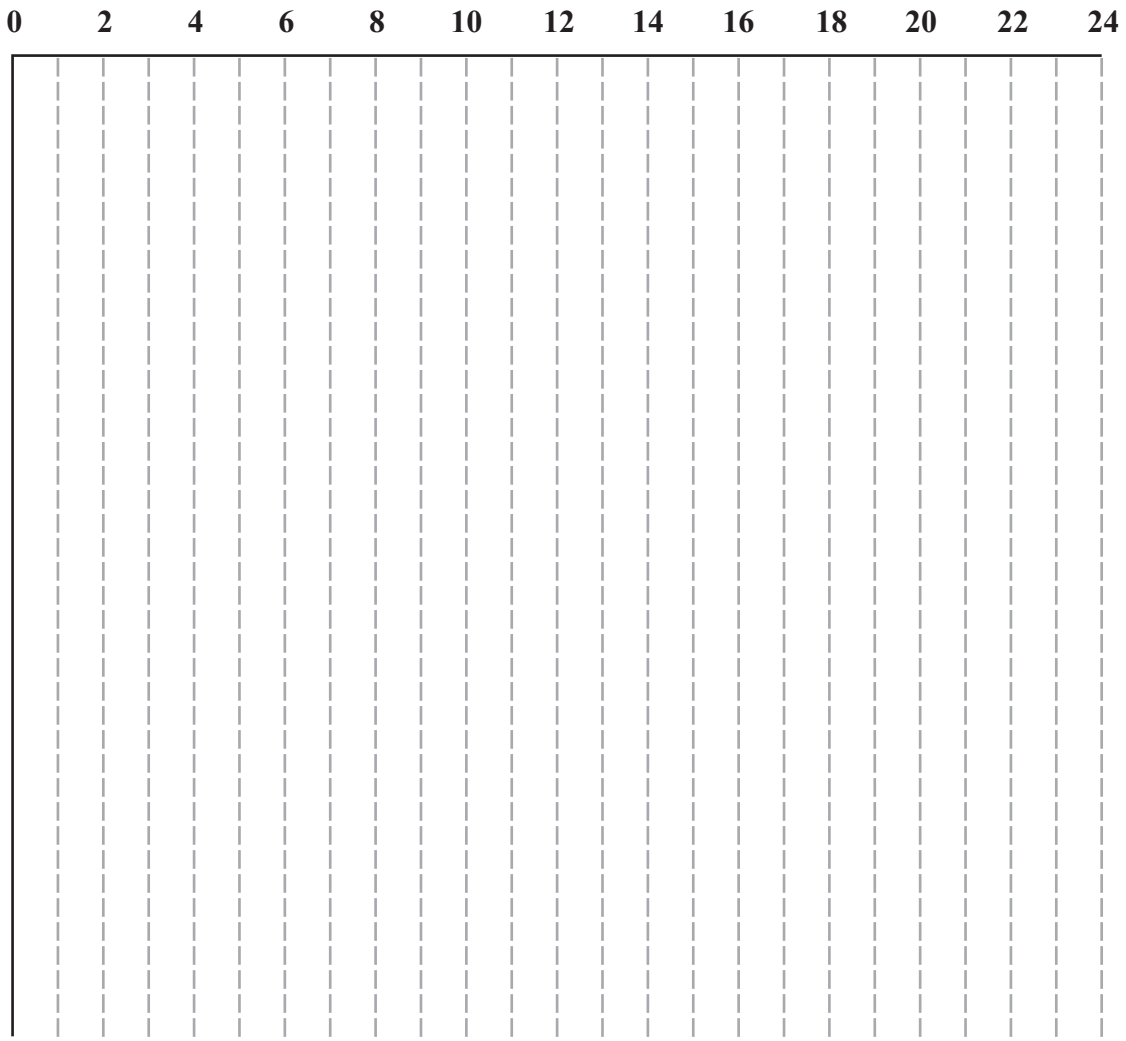
Question 7 continued

(c) Critical activities _____

(d) _____

_____

(e)



(f) Activities that must be happening at time 5.5 _____

(g) _____

_____

_____

_____

Q7

(Total 16 marks)

TOTAL FOR PAPER: 75 MARKS

END

P 4 1 4 9 0 A 0 1 5 1 6