

Paper Reference(s)

6689

Edexcel GCE

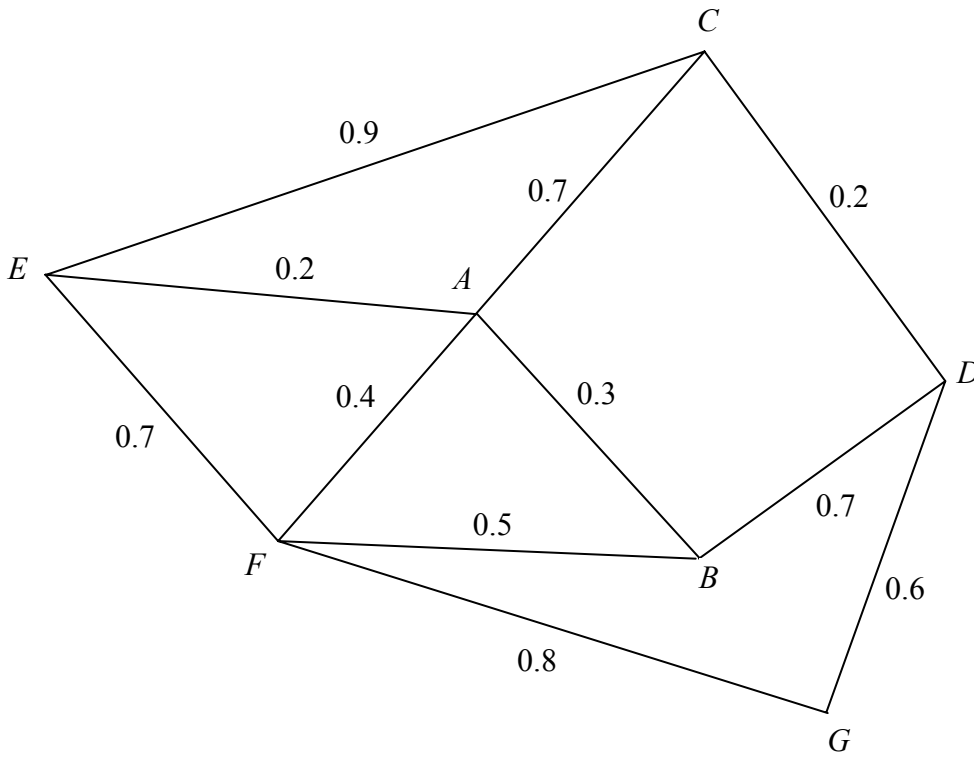
Decision Mathematics D1

Advanced/Advanced Subsidiary

Tuesday 4 November 2003 – Morning

Answer Book

1.



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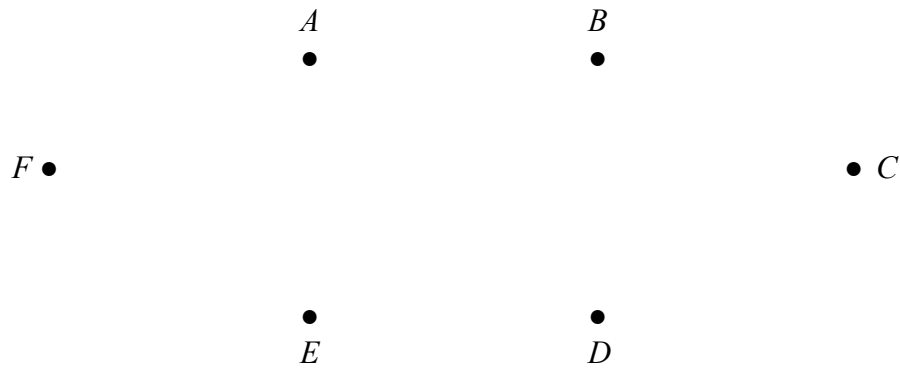
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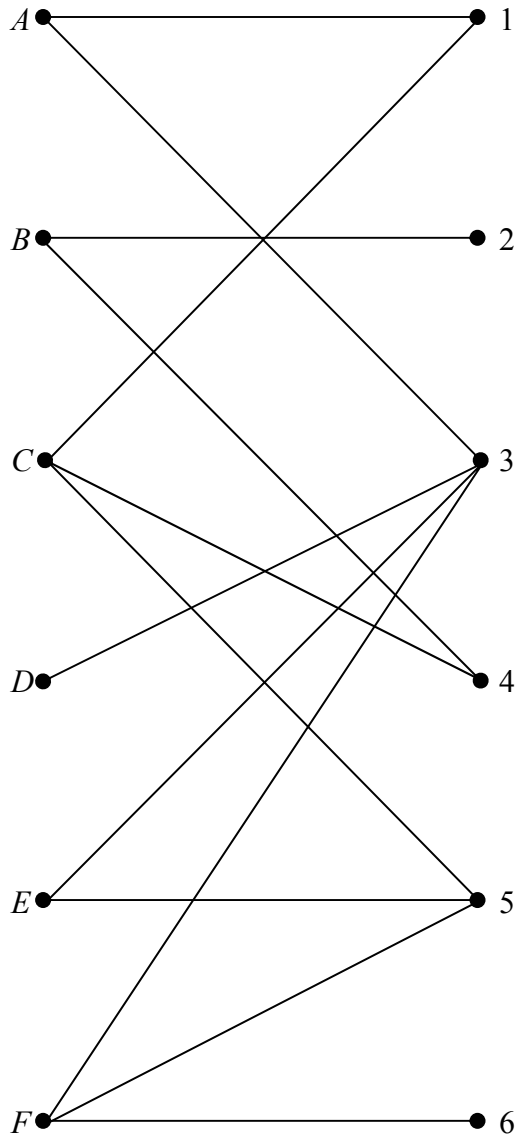
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2. (a)



(b)

3.



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3. continued

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4. (a)

(b)

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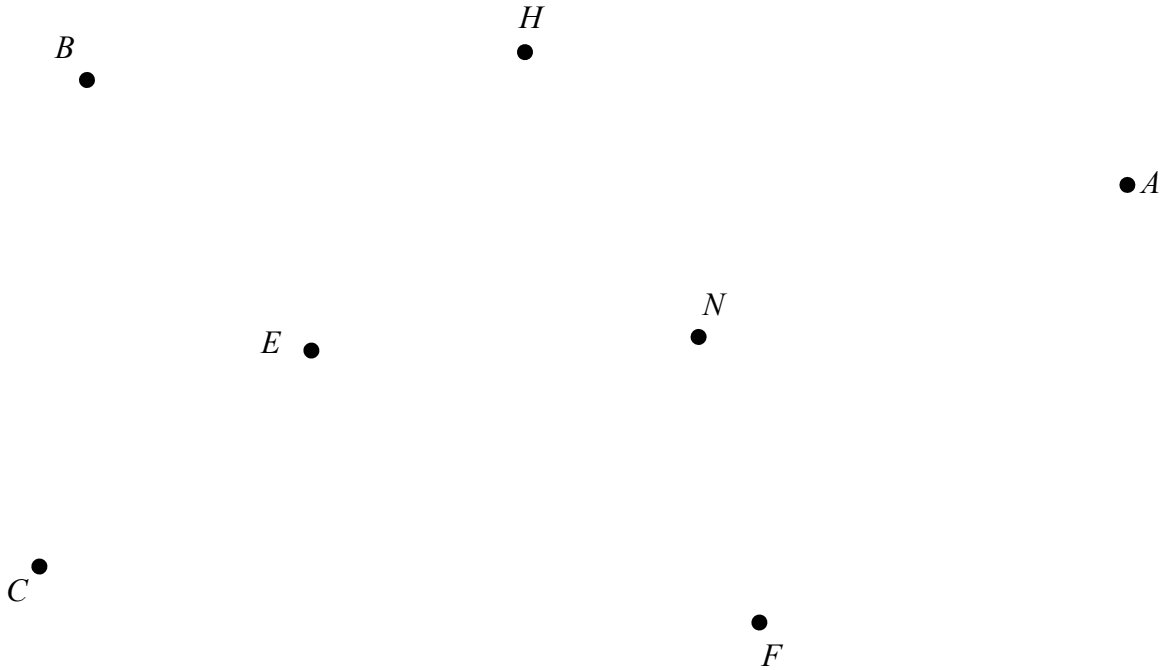
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(c)

Diagram 1

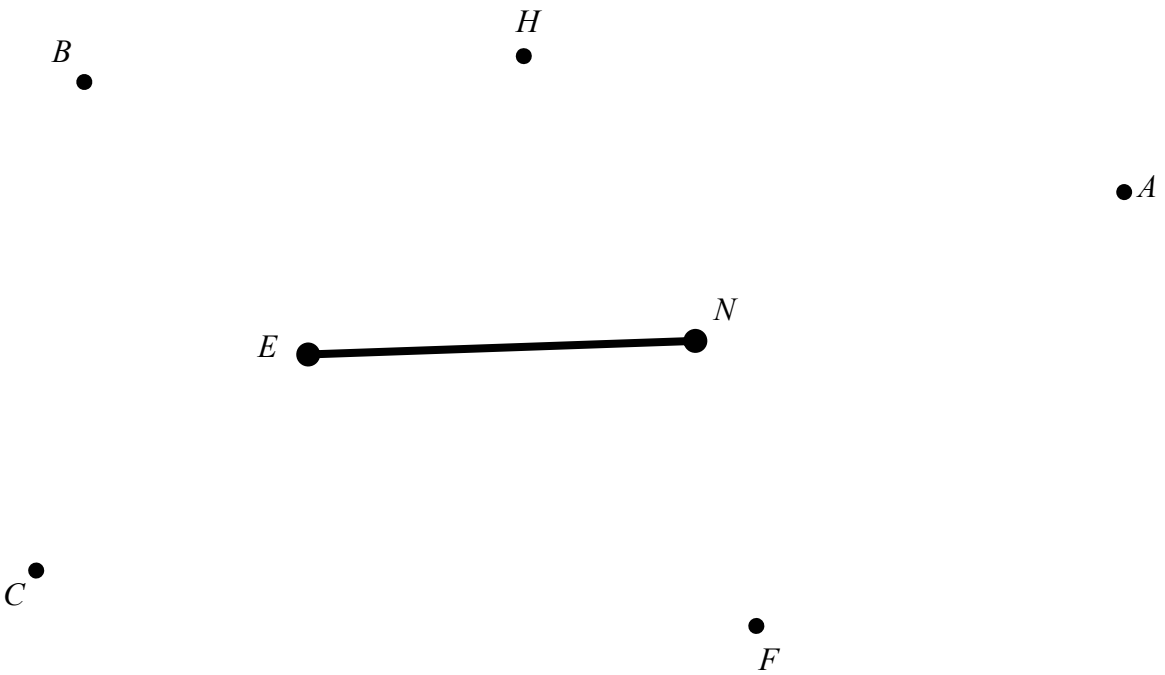


Order arcs included:

Length of minimum spanning tree:

(d)

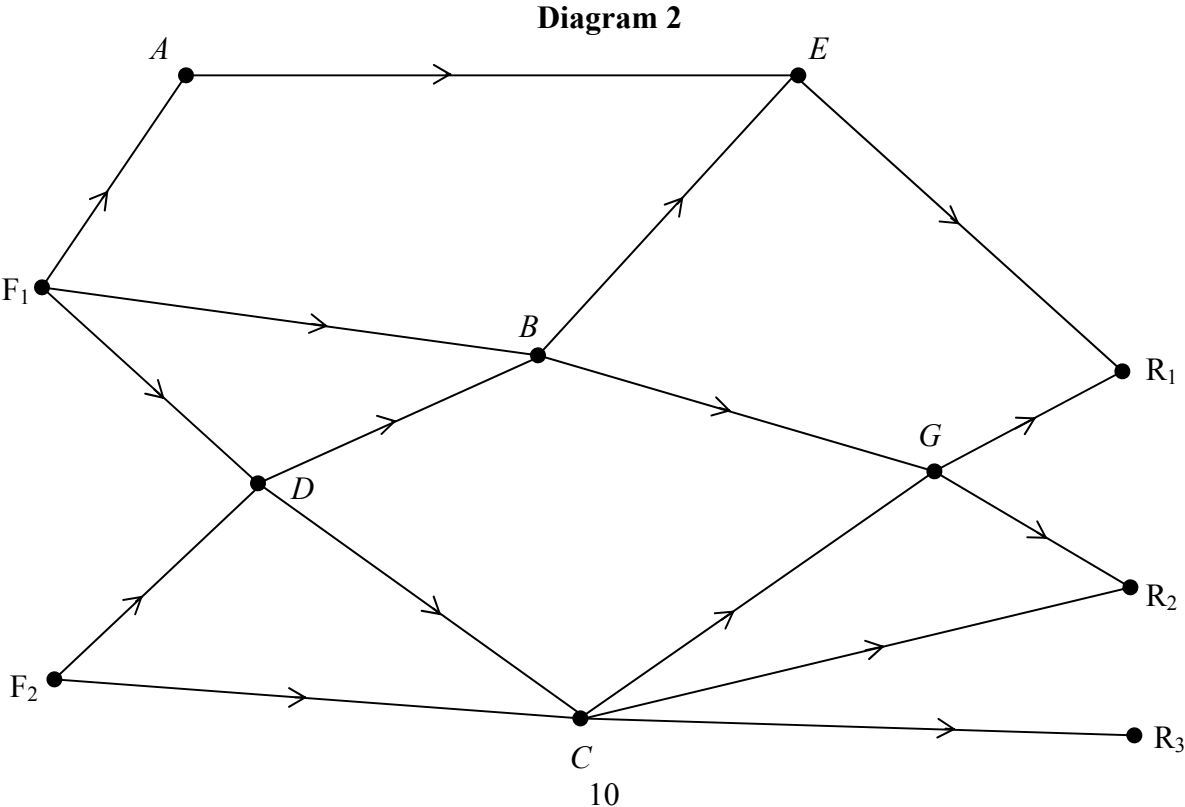
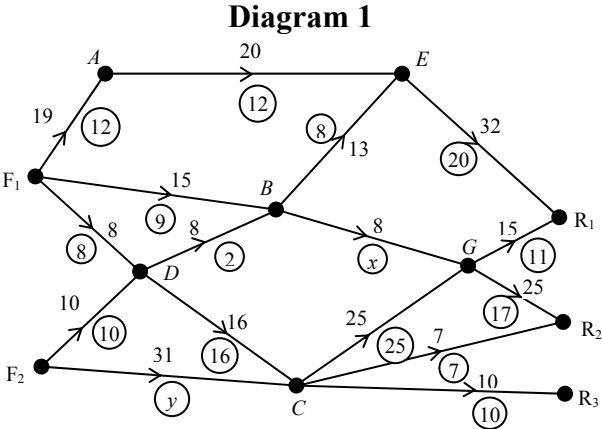
Diagram 2



New cable needed:

7. (a) $x = \dots\dots\dots$ $y = \dots\dots\dots$

(b)

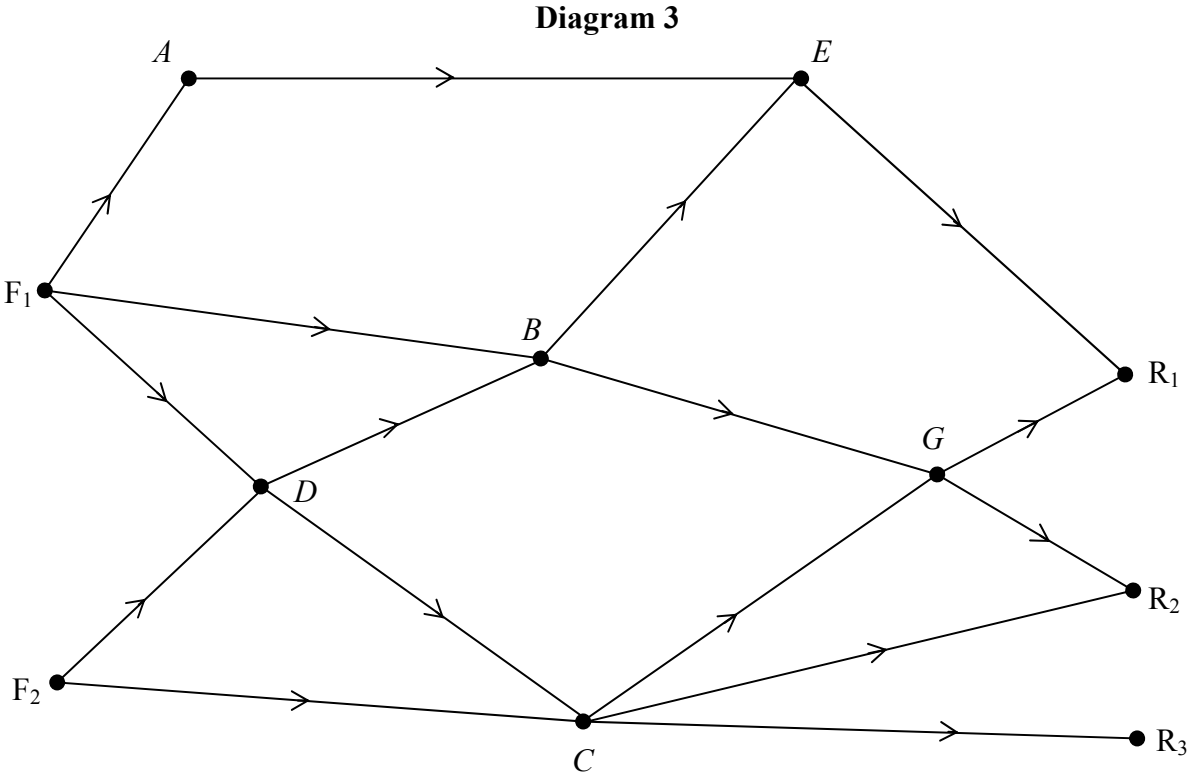


(c)

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(d)



Max Flow =

(e)

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8.

(c) Profit on small lamp = Euros

| Basic variable | x | y | z | r | s | Value |
|----------------|-----|-----|-----|-----|-----|-------|
| r | 3 | 5 | 6 | 1 | 0 | 50 |
| s | 1 | 2 | 4 | 0 | 1 | 24 |
| P | -1 | -3 | -4 | 0 | 0 | 0 |

You may not need to use all these tableaux

| Basic variable | x | y | z | r | s | Value |
|----------------|-----|-----|-----|-----|-----|-------|
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| | | | | | | |
| | | | | | | |

| Basic variable | x | y | z | r | s | Value |
|----------------|-----|-----|-----|-----|-----|-------|
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