

Wednesday 5 June 2013 – Afternoon

FSMQ ADVANCED LEVEL

6993/01 Additional Mathematics

PRINTED ANSWER BOOK

Candidates answer on the Printed Answer Book.

OCR supplied materials:

- Question Paper 6993 (inserted)

Other materials required:

- Scientific or graphical calculator

Duration: 2 hours



Candidate forename		Candidate surname	
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Centre number						Candidate number				
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INSTRUCTIONS TO CANDIDATES

These instructions are the same on the Printed Answer Book and the Question Paper.

- The Question Paper will be found in the centre of the Printed Answer Book.
- 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.
- Answer **all** the questions.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Do **not** write in the bar codes.
- You are permitted to use a scientific or graphical calculator in this paper.
- Final answers should be given correct to three significant figures where appropriate.

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 **100**.
- The Printed Answer Book consists of **20** pages. The Question Paper consists of **8** pages. Any blank pages are indicated.

Section A

1 (i)	
1 (ii)	
2	

9(i)	
9(ii)	
9(iii)	

10 (i)	

10 (ii)	

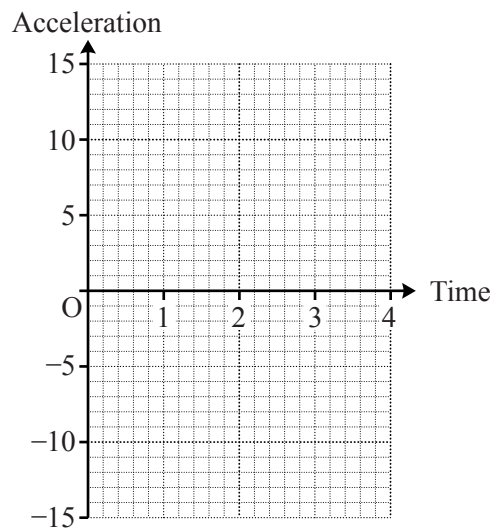
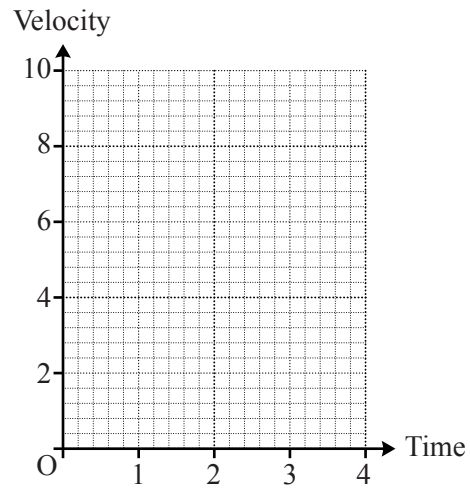
Section B

11 (a)	
11 (b) (i)	

11 (b) (ii)	
11 (b) (iii)	
11 (c)	

12(a)	
12(b) (i)	
12(b) (ii)	

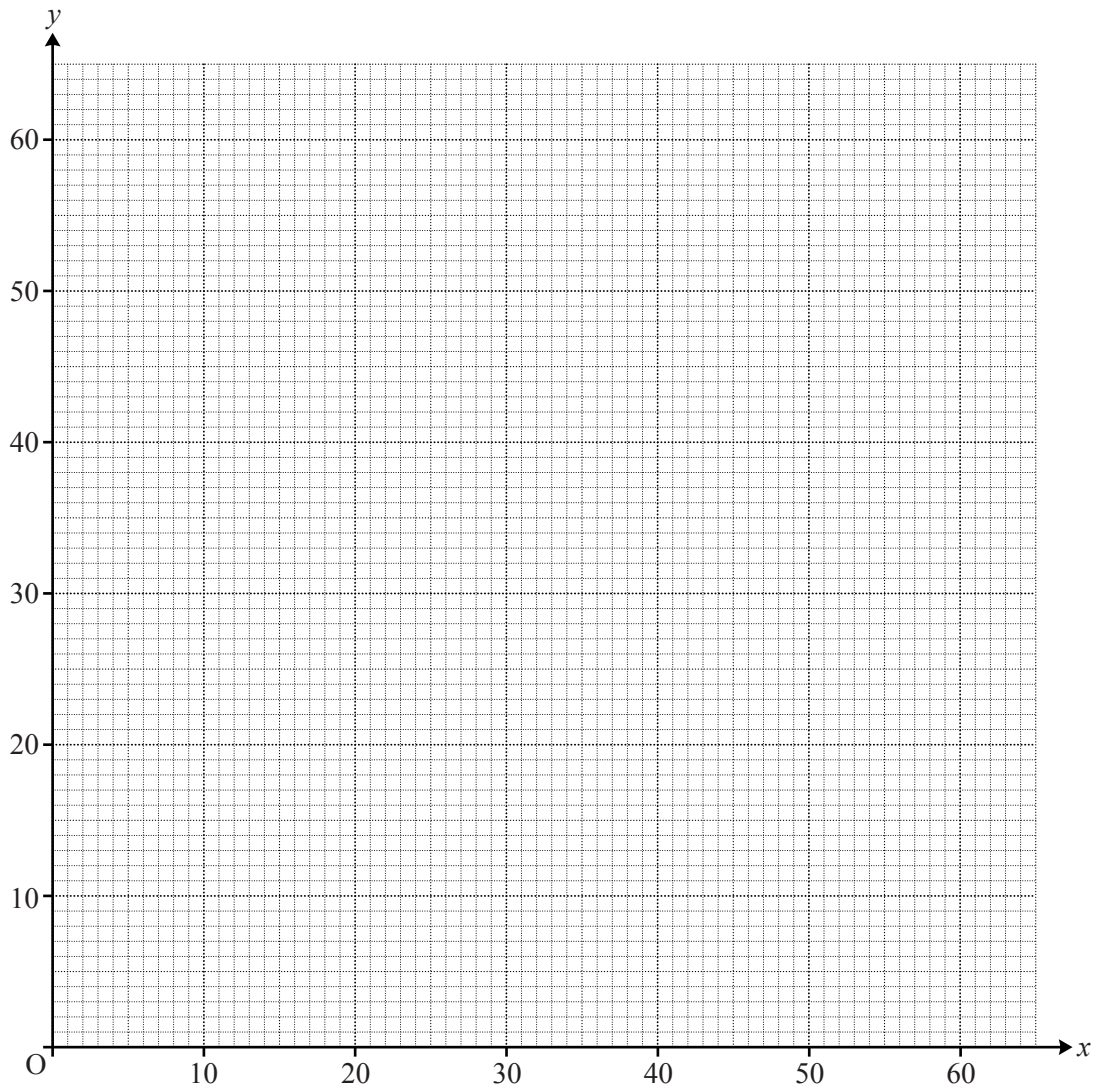
12(c)



There is a spare copy of these graphs on page 18. If you wish to offer a second attempt, then you must cross through both graphs on this page.

13 (i)	
13 (ii) <i>For the graph of part (ii) see facing page.</i>	
13 (iii)	

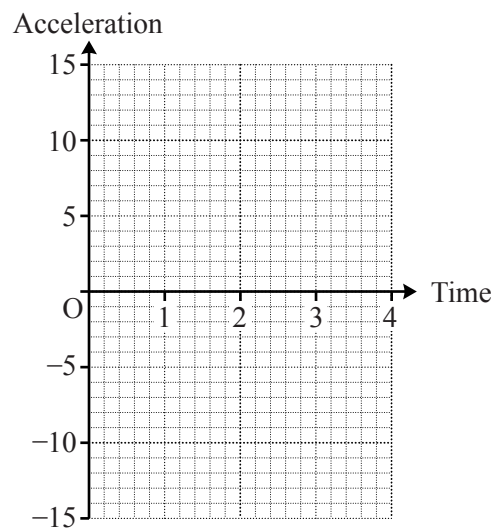
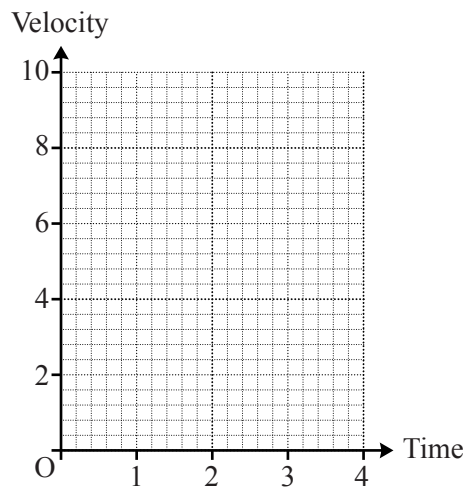
13(ii)



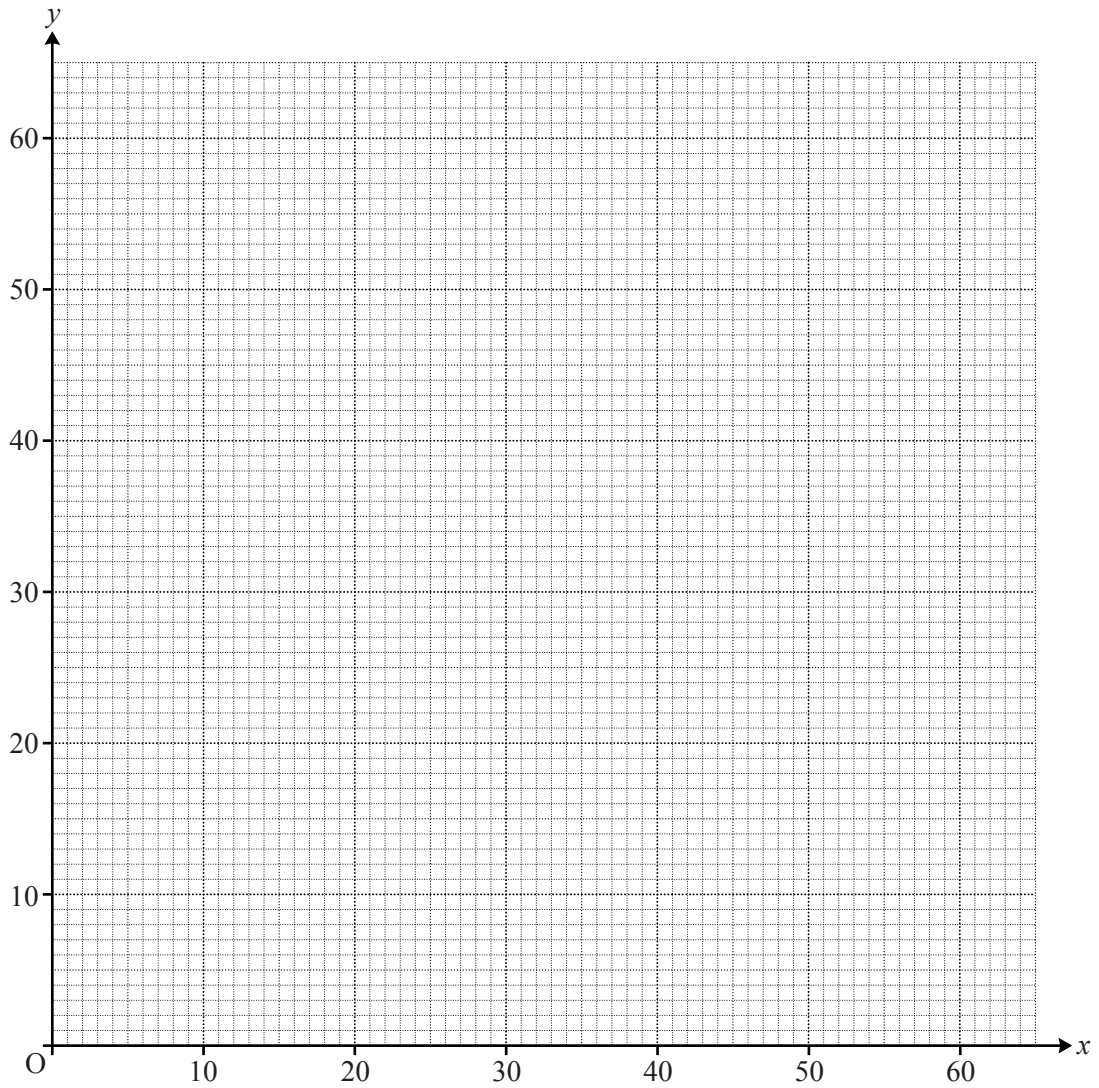
There is a spare copy of this graph on page 19. If you wish to offer a second attempt, then you must cross through the attempt on this page.

14 (iii)	
14 (iv)	

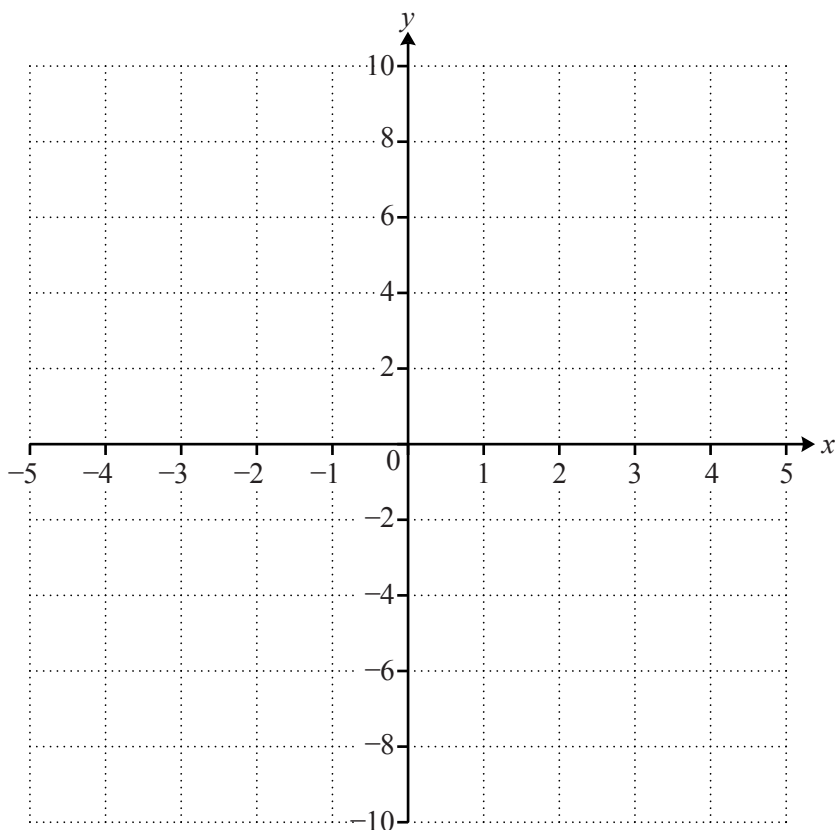
*This is a spare copy of the graphs for Question 12 (c)
Only write on this page if you want to offer a second attempt at the graph.
If you do so, then you must cross through the first attempt on page 13.*



*This is a spare copy of the graph for Question 13 (ii)
Only write on this page if you want to offer a second attempt at the graph.
If you do so, then you must cross through the first attempt on page 15.*



*This is a spare copy of the graph for Question 5 (ii)
Only write on this page if you want to offer a second attempt at the graph.
If you do so, then you must cross through the first attempt on page 4.*



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