

Thursday 20 June 2024 – Afternoon

A Level Mathematics A

H240/03 Pure Mathematics and Mechanics

Printed Answer Booklet

Time allowed: 2 hours

You must have:

- Question Paper H240/03 (inside this document)
- a scientific or graphical calculator

AB



Please write clearly in black ink. **Do not write in the barcodes.**

Centre number

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Candidate number

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First name(s)

Last name

INSTRUCTIONS

- Use black ink. You can use an HB pencil, but only for graphs and diagrams.
- Write your answer to each question in the space provided in the **Printed Answer Booklet**. If you need extra space use the lined pages at the end of the Printed Answer Booklet. The question numbers must be clearly shown.
- Answer **all** the questions.
- Where appropriate, your answer should be supported with working. Marks might be given for using a correct method, even if your answer is wrong.
- Give non-exact numerical answers correct to **3** significant figures unless a different degree of accuracy is specified in the question.
- The acceleration due to gravity is denoted by $g \text{ m s}^{-2}$. When a numerical value is needed use $g = 9.8$ unless a different value is specified in the question.

INFORMATION

- The total mark for this paper is **100**.
- The marks for each question are shown in brackets [].
- This document has **20** pages.

ADVICE

- Read each question carefully before you start your answer.

2
Section A
Pure Mathematics

1(a)	
1(b)	
2	

3(a)**3(b)****3(c)**

4(a)	
	4(b)(i)
(answer space continued on next page)	

4(b)(i)	(continued)
4(b)(ii)	

5(a)(i)	
5(a)(ii)	

5(b)

6(a)	
6(b)(i)	
6(b)(ii)	
7	
(answer space continued on next page)	

7 (continued)

 x -coordinate of P : x -coordinate of Q :

10

Section B

Mechanics

8(a)	
8(b)	

9(a)

Magnitude of resultant force:

Bearing of resultant force:

9(b)Magnitude of **F**:Bearing of **F**:

10(a)	
10(b)	

11(a)	
	11(b)

12(a)

 $v \text{ (ms}^{-1}\text{)}$  $t \text{ (s)}$

12(b)

12(c)

13(a)	

[illegible]

[illegible]

[illegible]



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