OCR
Oxford Cambridge and RSA

Tuesday 20 June 2023 – Afternoon

A Level Mathematics A

H240/03 Pure Mathematics and Mechanics

Printed Answer Booklet

Time allowed: 2 hours

AB

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

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

Centre number | | | | | | Candidate number | | | | |

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 $g\,\text{m}\,\text{s}^{-2}$. 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.

Section A
Pure Mathematics

1

2(a)

2(b)

3(a)(i)	
3(a)(ii)	
3(b)	

4(a)

4(b)

5(a)

5(b)

(answer space continued on next page)

5(b) **(continued)**

6(a)

6(b)

7(a)

7(b)

(answer space continued on next page)

7(b) (**continued**)

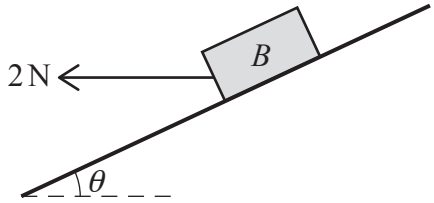
7(c)

7(d)

Section B
Mechanics

8

9(a)



9(b)

(answer space continued on next page)

9(b)	**(continued)**
10(a)	
10(b)	

11(a)

11(b)

12(a)

12(b)

12(c)

12(d)

13(a)

13(b)

ADDITIONAL ANSWER SPACE

If additional space is required, you should use the following lined page(s). The question number(s) must be clearly shown in the margin(s).