



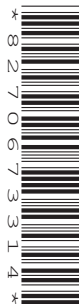
# Cambridge International AS & A Level

CANDIDATE  
NAME
CENTRE  
NUMBER

|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
|--|--|--|--|--|

CANDIDATE  
NUMBER

|  |  |  |  |
|--|--|--|--|
|  |  |  |  |
|--|--|--|--|



## MATHEMATICS

9709/63

Paper 6 Probability &amp; Statistics 2

October/November 2024

1 hour 15 minutes

You must answer on the question paper.

You will need: List of formulae (MF19)

### INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen or correction fluid.
- Do **not** write on any bar codes.
- If additional space is needed, you should use the lined page at the end of this booklet; the question number or numbers must be clearly shown.
- You should use a calculator where appropriate.
- You must show all necessary working clearly; no marks will be given for unsupported answers from a calculator.
- Give non-exact numerical answers correct to 3 significant figures, or 1 decimal place for angles in degrees, unless a different level of accuracy is specified in the question.

### INFORMATION

- The total mark for this paper is 50.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **12** pages. Any blank pages are indicated.



(a) Calculate a 96% confidence interval for the population mean height. [3]

Explain briefly whether Bubay is correct. [1]





4Uadmission



(a) Calculate unbiased estimates of the population mean and variance of  $T$ . [3]

This image shows a blank sheet of white paper designed for handwriting practice. It features ten horizontal rows, each defined by two parallel dotted lines. A large, light blue watermark with the text "4Uac" is oriented diagonally from the top-left towards the bottom-right, spanning across the middle of the page. The paper is otherwise empty of any other markings or text.

DO NOT WRITE IN THIS MARGIN

DO NOT WRITE IN THIS MARGIN

DO NOT WRITE IN THIS MARGIN

DO NOT WRITE IN THIS MARGIN

DO NOT WRITE IN THIS MARGIN



**(a)** State, with a reason, whether he should use a one-tailed or a two-tailed test. [1]

**(b)** Carry out the test. [5]



- 

- 4Uadn



- Find the minimum time for which she should wait, giving your answer correct to the nearest minute. [4]



4Uadmission



4Uadit



- Given that the true value of  $\lambda$  is 0.6, calculate the probability of a Type II error. [3]

- 4Uadm

DO NOT WRITE IN THIS MARGIN

DO NOT WRITE IN THIS MARGIN

DO NOT WRITE IN THIS MARGIN

DO NOT WRITE IN THIS MARGIN

DO NOT WRITE IN THIS MARGIN