

A Level Further Mathematics B (MEI)

Y422/01 Statistics Major

Printed Answer Booklet

Time allowed: 2 hours 15 minutes

You must have:

- Question Paper Y422/01 (inside this document)
- the Formulae Booklet for Further Mathematics B (MEI)
- a scientific or graphical calculator

AB



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

Centre number

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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 page 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 your final answers to a degree of accuracy that is appropriate to the context.

INFORMATION

- This document has **20** pages.

ADVICE

- Read each question carefully before you start your answer.

Section A (27 marks)

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| 1(a) | |
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| | $\text{Var}(X) =$ |
| 1(b) | |
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| | Standard deviation = |

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| 2(b)(i) | |
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| 2(b)(ii) | |
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| 2(c) | |
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| 3(a) | |
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| 4(a) | |
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Section B (93 marks)

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| 5(b) | |
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| 5(c)(i) | |
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| 5(c)(ii) | |
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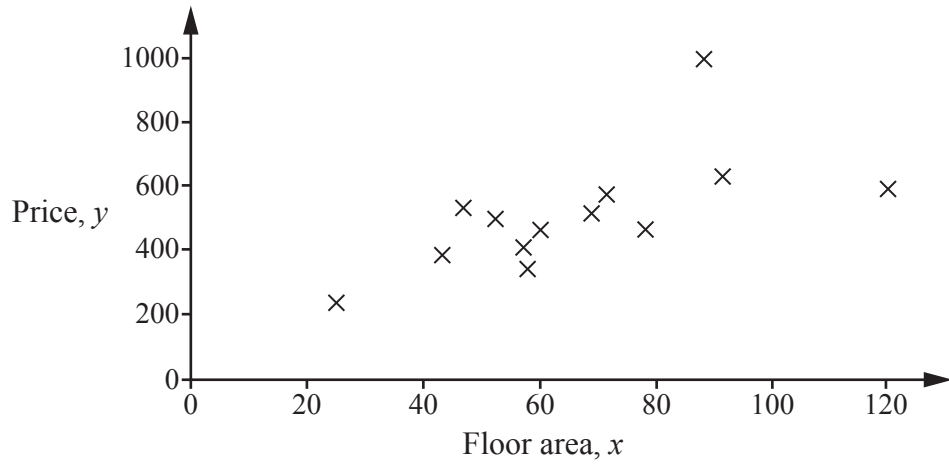
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| 6(c) | (continued) |
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| 7(a) | |
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| | Estimate of the population mean = |
| | Estimate of the population standard deviation = |
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| 7(e) | |
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8(a)



8(b)

8(c)**8(d)****8(e)**

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| 9(a) | Expected frequency | | Bicycle | | |
| | | | Road | Gravel | Electric |
| | Maximum speed | Less than 25 mph | | | 12.95 |
| | | 25 mph or greater | | | 24.05 |
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| 9(b) | | | | | |
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| 9(c) | | | | | |
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| 9(c) | (continued) |
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| 9(d) | Road bicycle: |
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| | Electric bicycle: |
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| 10(a) | |
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| 11(a) | |
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| | For n even, the probability = |
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| | For n odd, the probability = |
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| 11(b) | |
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| 11(c) | |
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12(a)

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