



Rewarding Learning

ADVANCED SUBSIDIARY (AS)
General Certificate of Education
2017

Centre Number

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Candidate Number

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Mathematics

Assessment Unit S1

assessing

Module S1: Statistics 1



[AMS11]

AMS11

TUESDAY 30 MAY, MORNING

TIME

1 hour 30 minutes.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

You must answer **all seven** questions in the spaces provided.

Do not write outside the boxed area on each page or on blank pages.

Complete in black ink only. **Do not write with a gel pen.**

Questions which require drawing or sketching should be completed using an H.B. pencil.

All working should be clearly shown in the spaces provided. Marks may be awarded for partially correct solutions. **Answers without working may not gain full credit.**

Answers should be given to three significant figures unless otherwise stated.

You are permitted to use a graphic or scientific calculator in this paper.

INFORMATION FOR CANDIDATES

The total mark for this paper is 75

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

A copy of the **Mathematical Formulae and Tables booklet** is provided.

Throughout the paper the logarithmic notation used is $\ln z$ where it is noted that $\ln z \equiv \log_e z$

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24AMS1101

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(i) Find the probability that in a school week he will be late exactly twice. [3]

[illegible]

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[4]



24AMS1104

[4]

[illegible]

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- 2** A discrete random variable X has distribution given in **Table 1** below.

Table 1

x	-2	-1	0	1	2
$P(X = x)$	a	0.16	0.16	b	0.08

Given that $E(X) = -0.12$

- (i)** find the values of a and b

[6]

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[4]

[Turn over

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24AMS1107

- Find the probability that their colours are different.

[6]



Handwriting practice lines consisting of a solid top line, a dashed middle line, and a solid bottom line. There are 20 such sets of lines arranged vertically across the page.

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[5]

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Normal distribution values should be read from the tables provided.

- 5 The scores of an aptitude test are normally distributed with mean 150 and standard deviation 20

Successful candidates are awarded a ‘pass’, ‘merit’ or ‘distinction’.

The pass mark is 120 and 165 is needed for a 'merit'.

Only the top 5% of candidates are awarded a ‘distinction’.

- (i) Find the percentage of candidates awarded a 'pass'. [6]

[illegible]

[4]

[Turn over

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24AMS1113

[4]



24AMS1114

- $$f(x) = kx(1-x)^2 \quad 0 \leq x \leq 1$$

[4]

[illegible]

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- [3]

[4]

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24AMS1117

- (i) Find the probability that two are sold by lunchtime (half a day). [3]

[4]

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- [5]

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For Examiner's use only	
Question Number	Marks
1	
2	
3	
4	
5	
6	
7	

Total Marks	
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Examiner Number

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