

る。一方字 EXAMINATION AUGUSTISEPTEMBER 2008 CAMBRIDGE A LEVEL PROGRAMME

(January 2008 & March 2008 Intake)

Wednesday

27 August 2008

2.30 pm - 3.45 pm

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9709/6

PAPER 6 Probability & Statistics 1 S

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Additional materials: Answer Booklet/Paper Graph Paper

List of formulae (MF9)

READ THESE INSTRUCTIONS FIRST

Write your name and class on all the work you hand in. Write in dark blue or black pen on both sides of the paper. If you have been given an Answer Booklet, follow the instructions on the front cover of the Booklet

You may use a soft pencil for any diagrams or graphs

Do not use staples, paper clips, highlighters, glue or correction fluid

Answer all the questions

Give non-exact numerical answers correct to 3 significant figures, or 1 decimal place in the case of angles in degrees, unless a different level of accuracy is specified in the question.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [] at the end of each question or part question The total marks for this paper is 50

Questions carrying smaller numbers of marks are printed earlier in the paper, and questions carrying larger

numbers of marks later in the paper.

The use of an electronic calculator is expected, where appropriate.

You are reminded of the need for clear presentation in your answers

This document consists of 4 printed pages

0 Taylor's University College Subang Jaya 2008

[Turn over

- I. The letters of the word SURPRISES are rearranged.

 How many different arrangements are there
- (i) if there are no restrictions imposed?

(ii) if the two R's are not next to each other?

N

10 of vineyards in a certain Department of France: The following table shows the size (in hectares) and the frequency (to the nearest 100)

			2.2			1.25
160 - 1280	80-160	40-80	20-40	10-20	0	Size (hectares)
70	2400	3200	3980	48	5500	Frequency

- 0498 T State which of the mean, median or mode is the most appropriate measure of position to use with the above data. processon Inspected Inspected
- Second of Second Give reasons for your choices that are not appropriate.

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(iii) Estimate the measure you select.

pomoning Lat al bossout

- (4) 1000 0 1000 0 0.004%; if he has been drinking, the probability of an accident goes up to 0.2%. midnight have been drinking during the evening. If a driver has not been It is estimated that one quarter of the drivers on the road between 11 p.m. and drinking, the probability that he will have an accident at that time of night is involved in an accident? What is the probability that a car selected at random at that time of night will be panjanij Loj Lomand
- Service of Service of jumps to the conclusion that the driver has been drinking. A policeman on the beat duty at 11:30 p.m. sees a car run into a lamp post and probability that he is right? What is the پېښې د با استندا

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- 100 Office S Show that the probability that a randomly selected competitor guesses all 2 1/7
- 2000 S competitor. Construct a probability distribution table for X. Let X represent the number of correct guesses made by a randomly selected
- Find the expected value and variance of X.

(L)

- Y The weights are normally distributed with a standard deviation of 5 g. A sugar manufacturing company packs sugar in packets with a mean weight of 1 kg.
- Source of Manager What percentage of packets weighs less than 995 g.

(J.)

- print o print o print o If the mean weight remains at 1 kg, what must the standard deviation be so that only 5% of the packets weigh less than 995 g?
- poste o poste o poste o Suppose the company has succeeded in its aim to have only 5% of the packets weighing less than 995 g. Five packets of sugar are chosen at random, what is the probability that all the packets weigh more than 995 g.
- 6. A factory makes 3 different types of chocolates:

25% are plain chocolates 35% are dark chocolates 40% are white chocolates

- tour o chocolates include Twenty chocolates are chosen at random. Find the probability that these
- (a) exactly 8 white chocolates.

1/7 1/2

(C)

- (b) more than one dark chocolate,
- South & plain chocolates approximation to estimate the probability that this sample includes more than 45 A sample of 150 chocolates is chosen in the factory, use a suitable 4

The times (in seconds) taken for a group of experienced rats to run through a maze are to be compared with the times for a group of inexperienced rats. The data are:

Experienced rais:

121, 137, 130, 128, 132, 127, 129, 131, 135, 130, 126, 120, 118, 125

Inexperienced rats:

135, 142, 145, 156, 149, 134, 139, 126, 147, 152, 153, 145, 144,

- promote to Find the median and the upper and lower quartiles for each group of rats. princing Lite bressed
- (ii) Plot the two sets of data on a single graph using boxplots.
- (iii) Give two comments on the results.

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