

Write your name here

Surname

Other names

Pearson Edexcel
International
Advanced Level

Centre Number

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Candidate Number

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Statistics S1

Advanced/Advanced Subsidiary

Friday 20 January 2017 – Afternoon

Time: 1 hour 30 minutes

Paper Reference

WST01/01**You must have:**

Mathematical Formulae and Statistical Tables (Blue)

Total Marks

Candidates may use any calculator allowed by the regulations of the Joint Council for Qualifications. Calculators must not have the facility for symbolic algebra manipulation, differentiation and integration, or have retrievable mathematical formulae stored in them.

Instructions

- Use **black** ink or ball-point pen.
- If pencil is used for diagrams/sketches/graphs it must be dark (HB or B). Coloured pencils and highlighter pens must not be used.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions and ensure that your answers to parts of questions are clearly labelled.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- You should show sufficient working to make your methods clear. Answers without working may not gain full credit.
- Values from the statistical tables should be quoted in full. When a calculator is used, the answer should be given to an appropriate degree of accuracy.

Information

- The total mark for this paper is 75.
- The marks for **each** question are shown in brackets – *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

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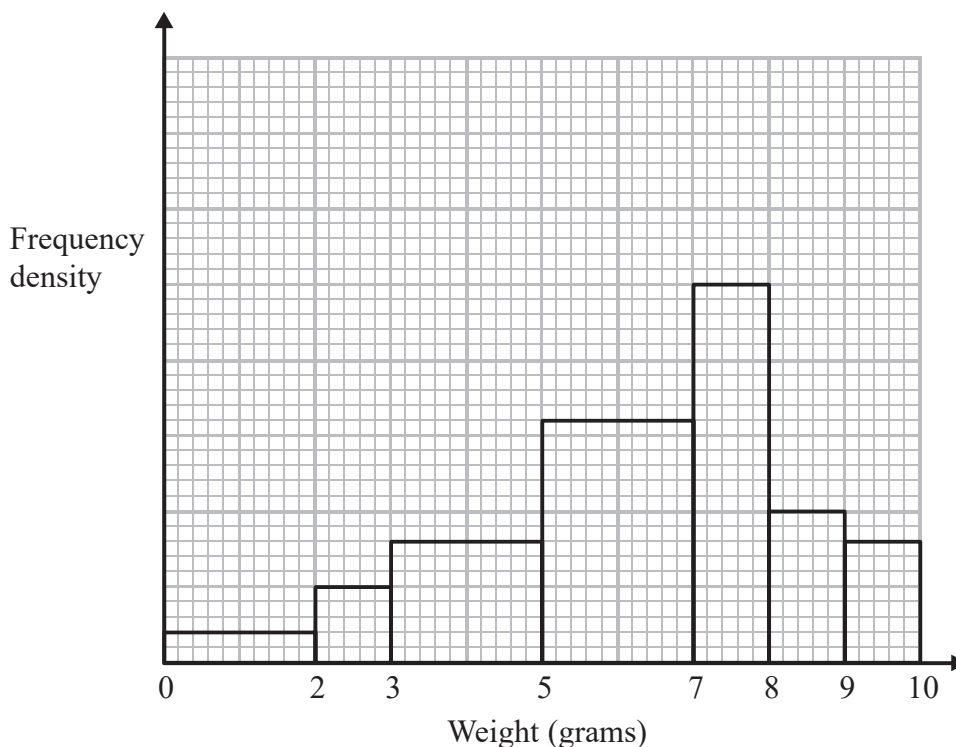
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Pearson

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1. Ralph records the weights, in grams, of 100 tomatoes. This information is displayed in the histogram below.



Given that 5 of the tomatoes have a weight between 2 and 3 grams,

- (a) find the number of tomatoes with a weight between 0 and 2 grams. (2)

One of the tomatoes is selected at random.

- (b) Find the probability that it weighs more than 3 grams. (2)

- (c) Estimate the proportion of the tomatoes with a weight greater than 6.25 grams. (2)

- (d) Using your answer to part (c), explain whether or not the median is greater than 6.25 grams. (1)

Given that the mean weight of these tomatoes is 6.25 grams and using your answer to part (d),

- (e) describe the skewness of the distribution of the weights of these tomatoes. Give a reason for your answer. (1)

Two of these 100 tomatoes are selected at random.

- (f) Estimate the probability that both tomatoes weigh within 0.75 grams of the mean. (4)

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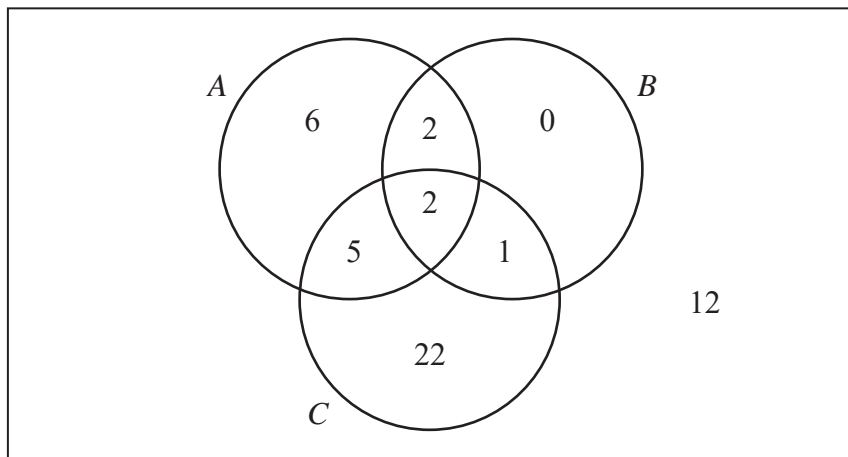
2. An integer is selected at random from the integers 1 to 50 inclusive.

A is the event that the integer selected is prime.

B is the event that the integer selected ends in a 3

C is the event that the integer selected is greater than 20

The Venn diagram shows the number of integers in each region for the events A , B and C



- (a) Describe in words the event $(A \cap B)$ (1)
- (b) Write down the probability that the integer selected is prime. (1)
- (c) Find $P([A \cup B \cup C]')$ (1)

Given that the integer selected is greater than 20

- (d) find the probability that it is prime. (2)

Using your answers to (b) and (d),

- (e) state, with a reason, whether or not the events A and C are statistically independent. (2)

Given that the integer selected is greater than 20 and prime,

- (f) find the probability that it ends in a 3 (2)

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