



22127303



MATHEMATICS
STANDARD LEVEL
PAPER 1

Thursday 3 May 2012 (afternoon)

1 hour 30 minutes

Candidate session number

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Examination code

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INSTRUCTIONS TO CANDIDATES

- Write your session number in the boxes above.
- Do not open this examination paper until instructed to do so.
- You are not permitted access to any calculator for this paper.
- Section A: answer all questions in the boxes provided.
- Section B: answer all questions on the answer sheets provided. Write your session number on each answer sheet, and attach them to this examination paper and your cover sheet using the tag provided.
- At the end of the examination, indicate the number of sheets used in the appropriate box on your cover sheet.
- Unless otherwise stated in the question, all numerical answers should be given exactly or correct to three significant figures.
- A clean copy of the **Mathematics SL information booklet** is required for this paper.
- The maximum mark for this examination paper is [90 marks].



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Full marks are not necessarily awarded for a correct answer with no working. Answers must be supported by working and/or explanations. Where an answer is incorrect, some marks may be given for a correct method, provided this is shown by written working. You are therefore advised to show all working.

SECTION A

Answer **all** questions in the boxes provided. Working may be continued below the lines if necessary.

1. [Maximum mark: 7]

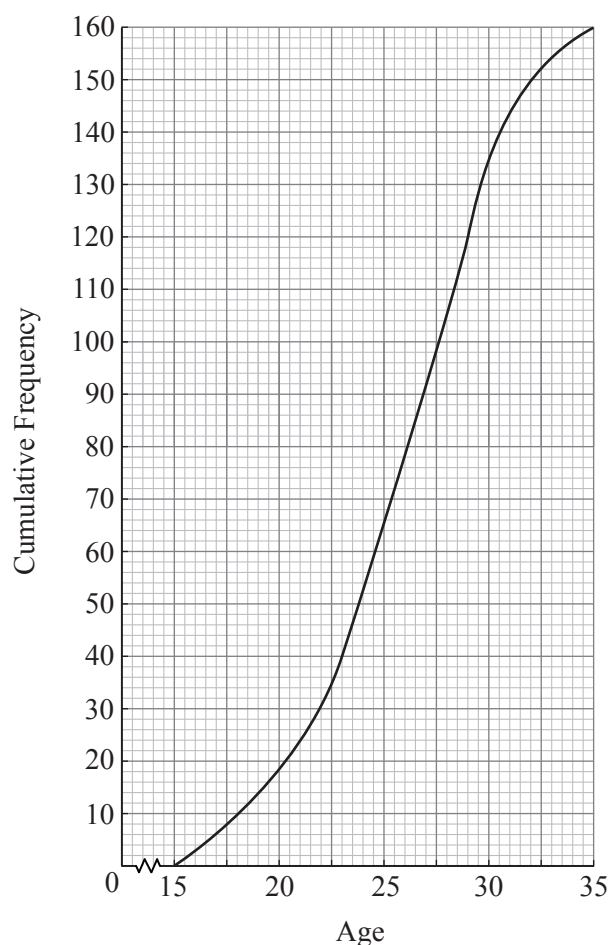
The ages of people attending a music concert are given in the table below.

Age	$15 \leq x < 19$	$19 \leq x < 23$	$23 \leq x < 27$	$27 \leq x < 31$	$31 \leq x < 35$
Frequency	14	26	52	52	16
Cumulative Frequency	14	40	92	p	160

(a) Find p .

[2 marks]

The cumulative frequency diagram is given below.



(This question continues on the following page)



(Question 1 continued)

(b) Use the diagram to estimate

(i) the 80th percentile;

(ii) the interquartile range.

[5 marks]

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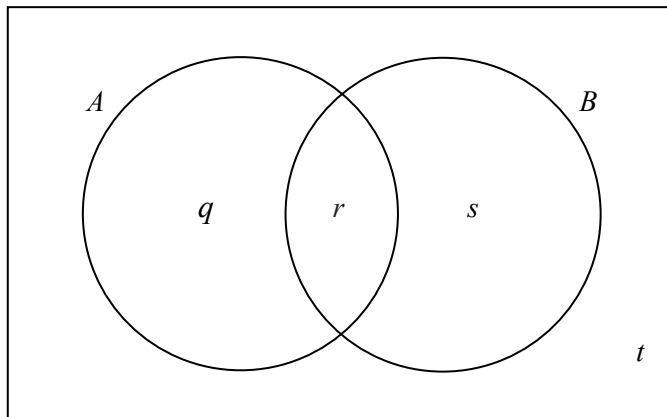
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4. [Maximum mark: 7]

Events A and B are such that $P(A) = 0.3$, $P(B) = 0.6$ and $P(A \cup B) = 0.7$.



The values q , r , s and t represent probabilities.

(a) Write down the value of t . [1 mark]

(b) (i) Show that $r = 0.2$.

(ii) Write down the value of q and of s . [3 marks]

(c) (i) Write down $P(B')$.

(ii) Find $P(A|B')$. [3 marks]

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