

Please check the examination details below before entering your candidate information

Candidate surname

Other names

Centre Number

Candidate Number

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## Pearson Edexcel International Advanced Level

Time 1 hour 30 minutes

Paper  
reference

**WST02/01**

### Mathematics

#### International Advanced Subsidiary/Advanced Level Statistics S2

**You must have:**

Mathematical Formulae and Statistical Tables (Yellow), calculator

Total Marks

**Candidates may use any calculator permitted by Pearson regulations. 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).
- **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. If a calculator is used instead of the tables, the value should be given to an equivalent degree of accuracy.
- Inexact answers should be given to three significant figures unless otherwise stated.

#### Information

- A booklet 'Mathematical Formulae and Statistical Tables' is provided.
- There are 7 questions in this question paper. 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.
- If you change your mind about an answer, cross it out and put your new answer and any working underneath.

Turn over ►

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2. A random variable  $X$  has probability density function given by

$$f(x) = \begin{cases} \frac{1}{4} & -\frac{1}{2} \leq x < \frac{1}{2} \\ 2x - \frac{3}{4} & \frac{1}{2} \leq x \leq k \\ 0 & \text{otherwise} \end{cases}$$

where  $k$  is a positive constant.

- (a) Sketch the graph of  $f(x)$  (2)
- (b) By forming and solving an equation in  $k$ , show that  $k = 1.25$  (4)
- (c) Use calculus to find  $E(X)$  (4)
- (d) Calculate the interquartile range of  $X$  (5)



















































