

Please check the examination details below before entering your candidate information

Candidate surname

Other names

**Pearson Edexcel**  
**International**  
**Advanced Level**

Centre Number

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Candidate Number

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**Wednesday 30 October 2019**

Afternoon (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 (Blue), 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 ballpoint 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 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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- (c) find the probability that exactly 3 people in the sample wear glasses. (2)

Question 1 continued

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(Total 9 marks)

Q1



(c) find the value of  $a$  and the value of  $b$ . (5)

DO NOT WRITE IN THIS AREA

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blank

Question 2 continued

Lined area for writing the answer to Question 2.

(Total 9 marks)

Q2



- (c) Comment on Saira's belief by using an appropriate approximation and a suitable test at the 5% level of significance. State your hypotheses clearly. (7)

Question 3 continued

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**DO NOT WRITE IN THIS AREA**

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DO NOT WRITE IN THIS AREA

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Question 3 continued

Lined area for writing the answer to Question 3.

(Total 12 marks)

Q3





Question 4 continued

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### Question 4 continued

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Question 4 continued

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Lined area for writing the answer to Question 4.

Q4

(Total 14 marks)



- (4)

Question 5 continued

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DO NOT WRITE IN THIS AREA

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Question 5 continued

Lined area for writing the answer to Question 5.





Question 5 continued

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DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

Lined area for writing the answer to Question 5.

(Total 11 marks)

Q5



- (4)

Question 6 continued

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**DO NOT WRITE IN THIS AREA**

**DO NOT WRITE IN THIS AREA**

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Question 6 continued

Lined area for writing the answer to Question 6.

(Total 8 marks)

Q6



- $$F(x) = \begin{cases} 0 & x < 0 \\ \frac{1}{3125}(25x^4 - 4x^5) & 0 \leq x \leq 5 \\ 1 & x > 5 \end{cases}$$

- (c) use a suitable test, at the 5% level of significance, to assess Olivia's belief. State your hypotheses clearly. (5)

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Question 7 continued

Lined area for writing the answer to Question 7.



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DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

Question 7 continued

Lined area for writing the answer to Question 7.

Q7

(Total 12 marks)

TOTAL FOR PAPER: 75 MARKS

END

