

Write your name here

Surname

Other names

Pearson
Edexcel GCE

Centre Number

--	--	--	--	--

Candidate Number

--	--	--	--	--

Statistics S3

Advanced/Advanced Subsidiary

Wednesday 25 May 2016 – Morning
Time: 1 hour 30 minutes

Paper Reference

6691/01

You must have:

Mathematical Formulae and Statistical Tables (Pink)

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 ►

P46676A

©2016 Pearson Education Ltd.

1/1/1/



PEARSON

Question 2 continued

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

Q2

--	--

(Total 10 marks)



3. (a) Describe when you would use Spearman’s rank correlation coefficient rather than the product moment correlation coefficient to measure the strength of the relationship between two variables. (1)

A shop sells sunglasses and ice cream. For one week in the summer the shopkeeper ranked the daily sales of ice cream and sunglasses. The ranks are shown in the table below.

	Sun	Mon	Tues	Weds	Thurs	Fri	Sat
Ice cream	6	4	7	5	3	2	1
Sunglasses	6	5	7	2	3	4	1

- (b) Calculate Spearman’s rank correlation coefficient for these data. (3)

- (c) Test, at the 5% level of significance, whether or not there is a positive correlation between sales of ice cream and sales of sunglasses. State your hypotheses clearly. (4)

The shopkeeper calculates the product moment correlation coefficient from his raw data and finds $r = 0.65$

- (d) Using this new coefficient, test, at the 5% level of significance, whether or not there is a positive correlation between sales of ice cream and sales of sunglasses. (2)

- (e) Using your answers to part (c) and part (d), comment on the nature of the relationship between sales of sunglasses and sales of ice cream. (1)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



