2. A survey of 250 adults was conducted to collect information about their salary, S, and whether or not they had a university education.

The results of the survey are given in the table.

Salary (S)	$S < £30\,000$	$S \geqslant £30\,000$
University education	52	78
No university education	63	57

These data are to be used in a test to determine whether there is an association between salaries and a university education.

(a) Calculate the expected frequency for adults with a university education and a salary of less than £30 000

(2)

Given that for the other 3 classes $\sum \frac{(O-E)^2}{E} = 2.908$ to 3 decimal places,

(b) test at the 5% level of significance, whether or not there is an association between salaries and a university education.
You should state your hypotheses, the test statistic, the degrees of freedom and the critical value used for this test.

(7)

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Question 2 continued

(Total for Question 2 is 9 marks)