5. A statistics course was taught by two professors. Students attend either all lectures given by professor A or all lectures given by professor B

Students who took this course all sat the same examination at the end of the course and their mark, x, was recorded.

The results of the examination for a random sample of students taught by each professor are summarised in the table below.

	n	$\sum x$	$\sum x^2$	**Unbiased estimate of the mean**	**Unbiased estimate of the variance**
Students taught by professor A	50	3610	260 955.6	72.2	6.4
Students taught by professor B	50	3085	190 457.2	m	v

(a) Find the value of m and the value of v

(3)

The head of department claims that the mean mark of the students taught by professor A is more than 10 marks greater than the mean mark of the students taught by professor B

(b) Use a suitable test, at the 5% level of significance, to investigate the claim made by the head of department.

(7)

(c) State two assumptions you have made in carrying out the test in part (b).

(2)

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Question 5 continued

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Question 5 continued

(Total for Question 5 is 12 marks)

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