5. A professor claims that undergraduates studying History have a typing speed of more than 15 words per minute faster than undergraduates studying Maths.

A sample is taken of 38 undergraduates studying History and 45 undergraduates studying Maths. The typing speed, x words per minute, of each undergraduate is recorded. The results are summarised in the table below.

	n	$\bar{x}$	s^2
Undergraduates studying History	38	56.3	27.2
Undergraduates studying Maths	45	39.8	18.5

(a) Use a suitable test, at the 5% level of significance, to investigate the professor's claim.
State clearly your hypotheses, test statistic and critical value.

(7)

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

(2)

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Question 5 continued

(Total for Question 5 is 9 marks)