2. Secondary schools in a region conduct ability testing at the start of Year 7 and the start of Year 8. Each year a regional education officer randomly selects 240 Year 7 students and 240 Year 8 students from across the region. The results for last year are summarised in the table below.

	Mean score	**Variance of scores**
Year 7	101	38
Year 8	103	42

The regional education officer claims that there is no difference between the mean scores of these two year groups.

(a) Test the regional education officer's claim at the 1% significance level. You should state your hypotheses, test statistic and critical value clearly.

(7)

(b) Explain the significance of the Central Limit Theorem in part (a).

(1)

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