A company has two machines, A and B, which independently fill small bottles with a liquid. The volumes of liquid per bottle, in suitable units, filled by machines A and B are denoted by x and y respectively. A scientist at the company takes a random sample of 40 bottles filled by machine A and a random sample of 50 bottles filled by machine B. The results are summarised as follows.

$$\Sigma x = 1120 \qquad \Sigma x^2 = 31400 \qquad \Sigma y = 1370 \qquad \Sigma y^2 = 37600$$

The population means of the volumes of liquid in the bottles filled by machines A and B are denoted by μ_A and μ_B.

(a) Test at the 2% significance level whether there is any difference between μ_A and μ_B. [8]

(b) Find the set of values of α for which there would be evidence at the α% significance level that $\mu_A - \mu_B$ is greater than 0.25. [4]