A scientist is investigating the masses of birds of a certain species in country *X* and country *Y*. She takes a random sample of 50 birds of this species from country *X* and a random sample of 80 birds of this species from country *Y*. She records their masses in kg, *x* and *y*, respectively. Her results are summarised as follows.

$$\Sigma x = 75.5 \qquad \Sigma x^2 = 115.2 \qquad \Sigma y = 116.8 \qquad \Sigma y^2 = 172.6$$

The population mean masses of these birds in countries *X* and *Y* are μ_x kg and μ_y kg respectively.

Test, at the 5% significance level, the null hypothesis $\mu_x = \mu_y$ against the alternative hypothesis $\mu_x > \mu_y$. State your conclusion in the context of the question. [8]