Kayla is investigating the lengths of the leaves of a certain type of tree found in two forests X and Y. She chooses a random sample of 40 leaves of this type from forest X and records their lengths, x cm. She also records the lengths, y cm, for a random sample of 60 leaves of this type from forest Y. Her results are summarised as follows.

$$\Sigma x = 242.0 \qquad \Sigma x^2 = 1587.0 \qquad \Sigma y = 373.2 \qquad \Sigma y^2 = 2532.6$$

Find a 90% confidence interval for the difference between the population mean lengths of leaves in forests X and Y. [7]