2 The mean mass of packets of Trueleaf tea is supposed to be 500 grams. An inspector wishes to test whether this value is correct. He weighs 60 randomly chosen packets and notes the mass, x grams, of each packet. The results are summarised as follows.

$$n = 60 \qquad \sum x = 29\,970 \qquad \sum x^2 = 14\,970\,300$$

Test, at the 5% significance level, whether the population mean mass is 500 grams. [8]

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