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A company supplies computers to businesses. In the past the company has found that computers are kept by businesses for a mean time of 5 years before being replaced. Claud, the manager of the company, thinks that the mean time before replacing computers is now different.

(a) Describe how Claud could obtain a cluster sample of 120 computers used by businesses the company supplies. [1]

Claud decides to conduct a hypothesis test at the 5% level to test whether there is evidence to suggest that the mean time that businesses keep computers is not 5 years. He takes a random sample of 120 computers. Summary statistics for the length of time computers in this sample are kept are shown in Fig. 9.

Statistics ▼	
n	120
Mean	4.8855
σ	2.6941
s	2.7054
Σx	586.2566
Σx^2	3735.1475
Min	0.1213
Q1	2.5472
Median	4.8692
Q3	7.0349
Max	9.9856

Fig. 9

(b) In this question you must show detailed reasoning.

- State the hypotheses for this test, explaining why the alternative hypothesis takes the form it does.
 - Use a suitable distribution to carry out the test.
- [8]