A company is deciding which of two machines, X and Y, can make a certain type of electrical component more quickly. The times taken, in minutes, to make one component of this type are recorded for a random sample of 8 components made by machine X and a random sample of 9 components made by machine Y. These times are as follows.

Machine X	4.0	4.6	4.7	4.8	5.0	5.2	5.6	5.8	
Machine Y	4.5	4.9	5.1	5.3	5.4	5.7	5.9	6.3	6.4

The manager claims that on average the time taken by machine X to make one component is less than that taken by machine Y.

(a) Carry out a Wilcoxon rank-sum test at the 5% significance level to test whether the manager's claim is supported by the data. [6]

(b) Assuming that the times taken to produce the components by the two machines are normally distributed with equal variances, carry out a t-test at the 5% significance level to test whether the manager's claim is supported by the data. [9]

(c) In general, would you expect the conclusions from the tests in parts **(a)** and **(b)** to be the same? Give a reason for your answer. [1]