

A college uses two assessments,  $X$  and  $Y$ , when interviewing applicants for research posts at the college. These assessments have been used for a large number of applicants this year.

The scores for a random sample of 9 applicants who took assessment  $X$  are as follows.

21.4   24.6   25.3   22.7   20.8   21.5   22.9   21.3   22.3

The scores for a random sample of 10 applicants who took assessment  $Y$  are as follows.

20.9   23.5   24.8   21.9   23.4   24.0   23.8   24.1   25.1   25.8

The interviewer believes that the population median score from assessment  $X$  is lower than the population median score from assessment  $Y$ .

Carry out a Wilcoxon rank-sum test, at the 1% significance level, to test whether the interviewer's belief is supported by the data. [7]