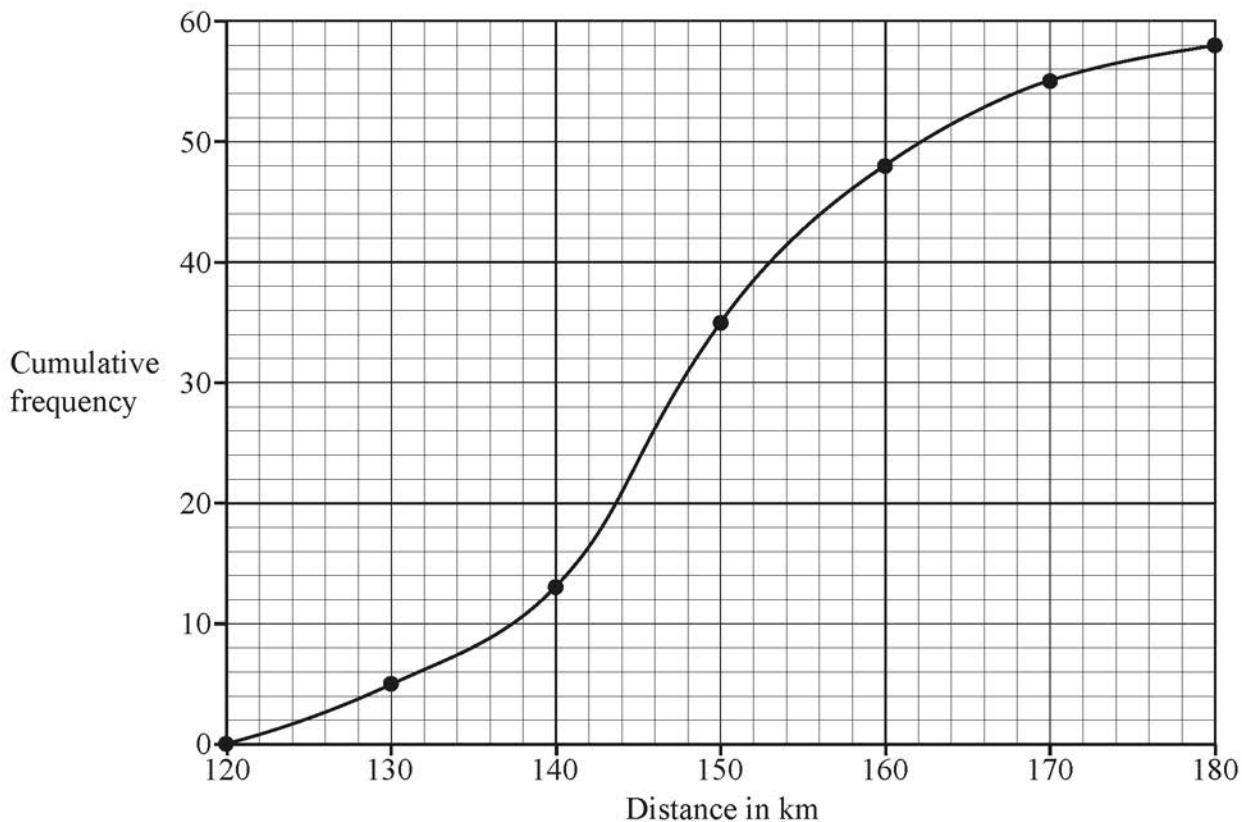


- 8 Ali conducted an investigation into the distances ridden by those members of a cycling club who rode at least 120 km in a training week. She grouped **all** the distances into intervals of length 10 km and then constructed a cumulative frequency diagram, which is shown below.



- (a) Explain whether the data Ali used is a sample or a population. [1]

The club is taking part in a competition. Eight team members and one reserve are to be selected. The club captain decides that the team members should be those cyclists who rode the furthest during the training week, and that the reserve should be the cyclist who rode the next furthest.

- (b) Use the graph to estimate the shortest distance cycled by a team member. [1]

The captain's best friend rode 156 km in the training week and was selected as reserve. Ali complained that this was unjustifiable.

- (c) Explain whether there is sufficient evidence in the diagram to support Ali's complaint. [1]