

5 Ali collected data from a random sample of 200 workers and recorded the number of days they each worked from home in the second week of September 2019. These data are shown in **Fig. 5.1**.

Number of days worked from home	0	1	2	3	4	5
Frequency	41	65	33	26	20	15

Fig. 5.1

- (a) Represent the data by a suitable diagram. [2]
- (b) Calculate
- The mean number of days worked from home.
 - The standard deviation of the number of days worked from home. [2]

Ali then collected data from a different random sample of 200 workers for the same week in September 2019. The mean number of days worked from home for this sample was 1.94 and the standard deviation was 1.75.

- (c) Explain whether there is any evidence to suggest that one or both of the samples must be flawed. [1]

Fig. 5.2 shows a cumulative frequency diagram for the ages of the workers in the first sample who worked from home on at least one day.

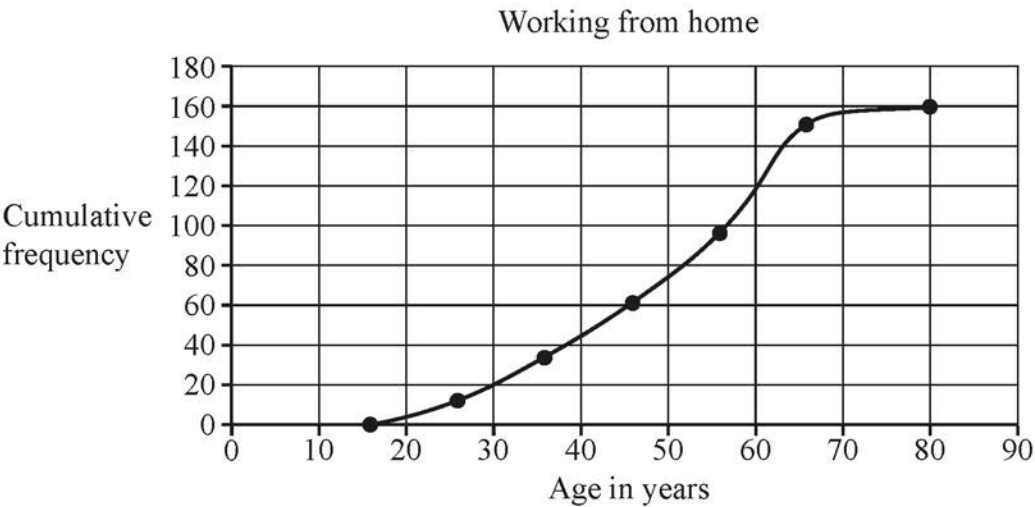


Fig. 5.2

Ali concludes that 90% of the workers in this sample who worked from home on at least one day were under 60 years of age.

- (d) Explain whether Ali's conclusion is correct. [1]