3 A researcher is conducting an investigation into the number of portions of fruit adults consume each day. The researcher decides to ask 50 men and 50 women to complete a simple questionnaire.

(a) State the type of sampling procedure the researcher is using. [1]

(b) Write down one disadvantage of this sampling procedure. [1]
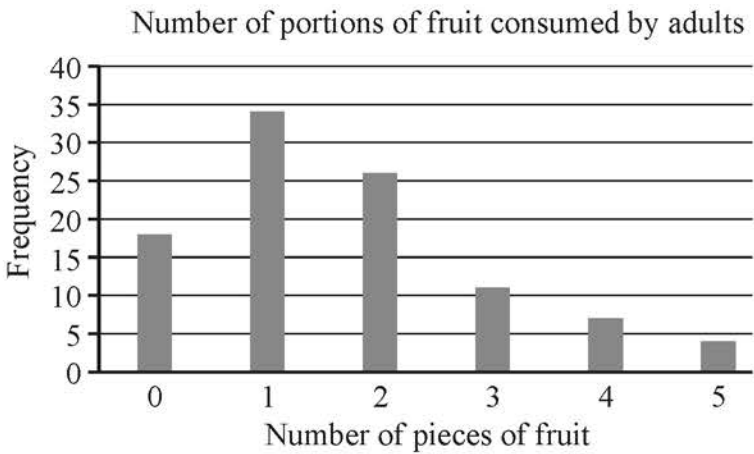
The researcher represents the data in Fig. 3.1.

Number of portions of fruit consumed by adults

Fig. 3.1

(c) Describe the shape of the distribution. [1]

The data are summarised in the frequency table in Fig. 3.2.

Number of portions of fruit	0	1	2	3	4	5
Number of adults	18	34	26	11	7	4

Fig. 3.2

(d) For the data in Fig. 3.2, use your calculator to find

- the mean,
- the standard deviation.

Give your answers correct to 2 decimal places. [2]

A second researcher chooses a proportional stratified sample of 100 children from years 5 and 6 in a certain primary school. There are 220 children to choose from. In year 5 there are 125 children, of whom 81 are boys.

(e) How many year 5 girls should be included in the sample? [1]

The second researcher found that the mean number of portions of fruit consumed per day by the children in this sample was 1.61 and the standard deviation was 0.53.

(f) Comment on the amount of fruit consumed per day by the children compared to the amount of fruit consumed per day by the adults. [2]