Finding the Mean from Tables and Tally Charts

Exercises

1. A survey of 100 households in an American town asked how many cars there were in each household The results are given below.

No. of cars	Frequency
0	5
1	70
2	21
3	3
4	1

Calculate the mean number of cars per household.

2. The survey in question 1 also asked how many TV sets there were in each household. The results are given below.

No. of TV Sets	Frequency
0	2
1	30
2	52
3	8
4	5
5	3

Calculate the mean number of TV sets per household.

3. A manager keeps a record of the number of calls she makes each day on her mobile phone.

Number of calls per day	0	1	2	3	4	5	6	7	8
Frequency	3	4	7	8	12	10	14	3	1

Calculate the mean number of calls per day.

4. A cricket team keeps a record of the number of runs scored in each over.

No. of Runs	Frequency
0	3
1	2
2	1
3	6
4	5
5	4
6	2
7	1
8	1

Calculate the mean number of runs per over.

5. A class conduct an experiment in biology. They place a number of 1 m by 1 m square grids on the playing field and count the number of plants in each grid. The results obtained are given below.

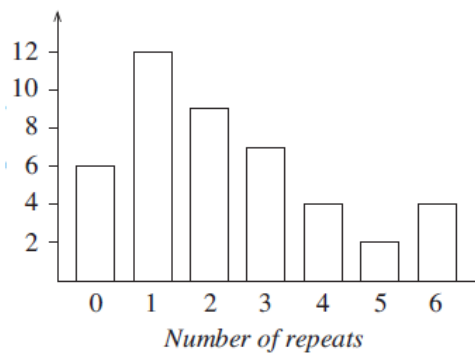|									
6	3	2	1	3	2	1	3	0	1
0	3	2	1	1	4	0	1	2	0
1	1	2	2	2	4	3	1	1	1
2	3	3	1	2	2	2	1	7	1

(a) Calculate the mean number of plants.

(b) How many times was the number of plants seen greater than the mean?

6. As part of a survey, the number of planes which were late arriving at Birmingham Airport each day was recorded. The results are listed below.

0	1	2	4	1	0	2	1	1	0
1	2	1	3	1	0	0	0	0	5
2	1	3	2	0	1	0	1	2	1
1	0	0	3	0	1	2	1	0	0

Construct a table and calculate the mean number of planes which were late each day.

7. Hannah drew this bar chart to show the number of repeated cards she got when she opened packets of football stickers.

Calculate the mean number of repeats per packet.

8. In a season a football team scored a total of 55 goals. The table below gives a summary of the number of goals per match.

Goals per Match	Frequency
0	4
1	6
2	
3	8
4	2
5	1

(a) In how many matches did they score 2 goals?

(b) Calculate the mean number of goals per match.

9. A traffic warden is trying to work out the mean number of parking tickets he has issued per day. He produced the table below, but has accidentally rubbed out some of the numbers.

Tickets per day	Frequency	No. of Tickets □ Frequency
0	1	●
1	●	1
2	10	●
3	7	●
4	●	20
5	2	●
6	●	●
TOTALS	**26**	**72**

Fill in the missing numbers and calculate the mean.

10. The number of children per family in a recent survey of 21 families is shown.

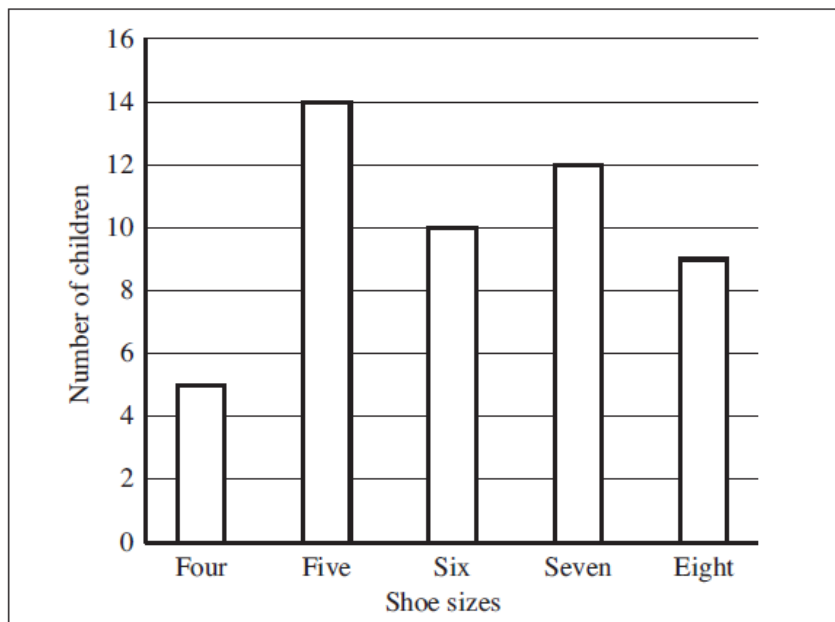|							
1	2	3	2	2	4	2	2
3	2	2	2	3	2	2	2
4	1	2	3	2			

(a) What is the range in the number of children per family?

(b) Calculate the mean number of children per family. Show your working.

A similar survey was taken in 1980.

In 1980 the range in the number of children per family was 7 and the mean was 2.7.

(c) Describe **two** changes that have occurred in the number of children per family since 1980.

11. The bar chart below shows the shoe sizes of a group of 50 children.

(a) How many children wear a size 7 shoe?

(b) How many children wear a shoe size smaller than size 7?

(c) Which shoe size is the **modal** size?

(d) What is the **median** shoe size?

(e) What is the probability that a child selected at random wears:

    (i)   a shoe size of 5?

    (ii)   a shoe size larger than 6?

(f) Which of these two averages, the mode and the median, would be of greater interest to the owner of a shoe shop who wishes to stock up on children's shoes? Give a reason for your answer.