Represent data in two-way tables

1 20 students were asked whether they had a pet.

The results are shown in the table.

Name	Year	Yes/No
Maria	Y7	Yes
Nancy	Y7	Yes
Amy	Y7	Yes
Aisha	Y8	No
Dominique	Y7	No
Lucy	Y8	Yes
Hannah	Y8	No
Zoe	Y7	Yes
Millie	Y8	No
Nima	Y8	No

Name	Year	Yes/No
Tim	Y7	Yes
Graeme	Y7	Yes
Jeff	Y8	No
Harry	Y7	No
Hassan	Y8	No
Marcus	Y7	No
Theo	Y7	No
William	Y7	Yes
Fred	Y7	No
Mika	Y8	Yes

a) Use tallies to complete the two-way table.

	Owns a pet	Does not own a pet	Total
Year 7	𝍸 ||	𝍸	𝍸 𝍸 ||
Year 8	||	𝍸 |	𝍸 |||
Total	𝍸 |||	𝍸 𝍸 |	𝍸 𝍸 𝍸 𝍸

b) Now complete the table of frequencies.

	Owns a pet	Does not own a pet	Total
Year 7	7	5	12
Year 8	2	6	8
Total	9	11	20

2 The masses of 25 melons and pumpkins are shown.

Melons

11.6 kg 8.8 kg 9.5 kg 10.5 kg 7.8 kg 9.2 kg 12.8 kg

7.2 kg 10.9 kg 11.0 kg 9.9 kg 10.2 kg 10.0 kg 6.8 kg

Pumpkins

16.4 kg 18.2 kg 10.5 kg 9.5 kg 12.8 kg 14.2 kg 15.0 kg

17.2 kg 11.5 kg 11 kg 10.7 kg

a) Complete the two-way table.

	10 kg or lighter than 10 kg	Heavier than 10 kg	Total
Melon	8	6	14
Pumpkin	1	10	11
Total	9	16	25

b) Write two things that you can see from the two-way table.

Various answers.

c) How can you tell from the table how many pumpkins were weighed in total?

Look at the total of the row for pumpkin.

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3 The table shows information about 200 people who were in a gym at a particular time.

	60 years old or younger	Over 60 years old	Total
Males	22	45	67
Females	19	114	133
Total	41	159	200

a) Complete the table.

b) How many males over 60 years were in the gym?

45

c) How many males in total were in the gym?

67

d) How many females were in the gym?

133

e) How many females over 60 years were in the gym?

114

f) What time of the day do you think this data was collected?

Various answers with correct justification.

Give reasons for your answer.

4 The two-way table shows the number of children in a school who have school lunch.

Complete the two-way table.

	Year 4	Year 5	Year 6	Total
School lunch	12	24	22	58
No school lunch	18	8	6	32
Total	30	32	28	90

5 40 people take part in a show.

The show is made up of singers, dancers and actors.

Here is some information.

- There are 22 males in the show.
- 15 of the males are dancers.
- There are 8 female singers.
- Of the 7 actors, 2 are male.

a) Draw a two-way table to show this information.

	Singers	Dancers	Actors	Total
Male	5	15	2	22
Female	8	5	5	18
Total	13	20	7	40

b) How many dancers are in the show?

20

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