Two Way Tables

Read a two way table

Complete a two way table

Vocabulary

Two Way Table

A two-way table is a way of recording data for two related pieces of information. The rows of the table indicate one category, and the columns of the table indicate the second category.

Example

The two-way table shows how many pupils in Year 10 study different languages.

	French	German	Spanish
Boys	55	21	14
Girls	50	25	25

a) How many girls study German?

b) How many boys are in the year group?

c) How many pupils study French?

d) Of the pupils who study French, what is the ratio of boys : girls?

Give your answer in its simplest form.

Solutions

The two-way table shows how many pupils in Year 10 study different languages.

	French	German	Spanish
Boys	55	21	14
Girls	50	25	25

a) How many girls study German? **25**

b) How many boys are in the year group? **90**

c) How many pupils study French? **105**

d) Of the pupils who study French, what is the ratio of boys : girls?

Give your answer in its simplest form. **11 : 10**

Example

The two-way table shows the favourite hot drinks of a group of adults and children.

	Tea	Coffee	Hot Chocolate	Total
Adults		8	12	
Children	40			65
Total			22	100

a) Copy and complete the two-way table.

b) An adult is chosen at random from the table.

What is the probability that their favourite hot drink is tea?

Solution

The two-way table shows the favourite hot drinks of a group of adults and children.

	Tea	Coffee	Hot Chocolate	Total
Adults	**15**	8	12	**35**
Children	40	**15**	**10**	65
Total	**55**	**23**	22	100

a) Copy and complete the two-way table.

b) An adult is chosen at random from the table.

What is the probability that their favourite hot drink is tea? $\frac{15}{35}$

The two way table shows the favourite pets of a group of year 7 and 8 students.

	Cats	Dogs	Other	Total
Year 7	60		**30**	
Year 8		40		**120**
Total	100			**240**

a) Copy and complete the two-way table.

b) A student is chosen at random.

Write down the probability that the student's favourite pet is 'cats'.

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100 adults were asked if they were happy at work.
The two way table shows the results.

	Happy	Not happy	Not Sure	Total
Men			**10**	**50**
Women	20			
Total	45		**18**	

a) Copy and complete the two-way table.

b) A man is chosen at random.

Write down the probability that the man is happy at work

c) What percentage of women are unhappy at work?

The two way table shows the favourite pets of a group of year 7 and 8 students.

	Cats	Dogs	Other	Total
Year 7	60	**30**	**30**	**120**
Year 8	**40**	40	**40**	**120**
Total	100	**70**	**70**	**240**

a) Copy and complete the two-way table.

b) A student is chosen at random.

Write down the probability that the student's favourite pet is 'cats'. $\frac{100}{240}$

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100 adults were asked if they were happy at work.
The two way table shows the results.

	Happy	Not happy	Not Sure	Total
Men	**25**	**15**	**10**	**50**
Women	20	**22**	**8**	**50**
Total	45	**37**	**18**	**100**

a) Copy and complete the two-way table.

b) A man is chosen at random.

Write down the probability that the man is happy at work $\frac{25}{50}$

c) What percentage of women are unhappy at work? **44%**

Constructing a two way table

200 children were asked how they get to school.

All the children either walk to school or get the bus to school.

130 pupils walk to school.

110 pupils are girls.

40 boys get the bus to school.

How many girls walk to school?

Solution

200 children were asked how they get to school.

All the children either walk to school or get the bus to school.

130 pupils walk to school.

110 pupils are girls.

40 boys get the bus to school.

	Walk	Bus	**Total**
Boys		40	
Girls			**110**
Total	**130**		**200**

How many girls walk to school?

80 girls walk to school.

	Walk	Bus	**Total**
Boys	50	40	90
Girls	80	30	**110**
Total	**130**	70	**200**

Exam Style Question

Nia asked 30 pupils at school to tell her which subject they like the best from English or Maths or Science.

13 of the 20 male pupils said Science.

2 of the female pupils said Mathematics.

7 pupils said English.

The number of male pupils who said English = 3 x (number of male pupils who said Science)

Complete the two-way table.

	English	Maths	Science	**Total**
Male pupils				**20**
Female pupils				
Total				**30**

Solution

Nia asked 30 pupils at school to tell her which subject they like the best from English or Maths or Science.

13 of the 20 male pupils said Science.

2 of the female pupils said Mathematics.

7 pupils said English.

The number of male pupils who said English = 3 x (number of male pupils who said Science)

Complete the two-way table.

	English	Maths	Science	**Total**
Male pupils	**1**	**6**	**13**	**20**
Female pupils	**6**	**2**	**2**	**10**
Total	**7**	**8**	**15**	**30**