

1 Two way tables

The table shows 80 visitors to a museum.

- a) Complete the two way table.
b) A visitor is picked at random. Find the probability it is a child with no guide.

	Guide	No guide	Total
Adults	26	18	44
Children	15	21	36
Total	41	39	80

b) $\frac{21}{80}$

2 Two way tables: from words

A club has 60 members. Each swims or climbs. 34 are adults, 22 adults swim and 31 members swim.

- a) Complete the two way table.
b) How many more juniors climb than swim?

	Swim	Climb	Total
Adults	22	12	34
Juniors	9	17	26
Total	31	29	60

b) $17 - 9 = 8$

3 Two way tables: comparing

- a) What fraction of Year 8 said yes? Simplify it.
b) Ella says Year 7 want it more, because more of them said yes. Is she right? Show why.

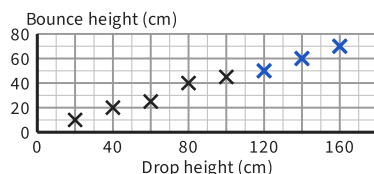
Longer lunch?	Yes	No	Total
Year 7	30	20	50
Year 8	21	9	30

a) $\frac{21}{30} = \frac{7}{10}$

b) no: Year 7 $\frac{30}{50} = 60\%$, Year 8 70%

4 Scatter graphs: correlation

- a) Plot the three drops of a ball in the table.
b) Describe the correlation and what it shows.



Drop (cm)	Bounce (cm)
120	50
140	60
160	70

b) positive: a higher drop gives a higher bounce

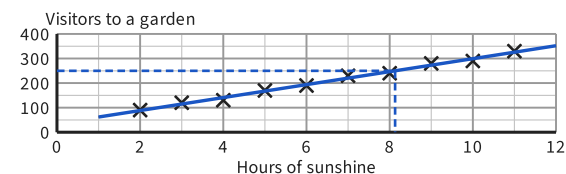
Collecting data and scatter graphs

revision mat answers

Foundation A

5 Scatter graphs: line of best fit

- a) Draw a line of best fit.
b) Estimate the sunshine on a day with 250 visitors.



b) about 8 hours (7.5 to 8.5)

6 Scatter graphs: interpreting

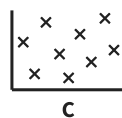
- a) Which graph could show a bike's age and its price? Why?
b) Towns with more cafés have more dentists. Kim says cafés cause this. Why is she wrong?



A



B



C

a) B: older bikes cost less

b) it is not cause: big towns have more of both

7 Estimating from a sample

A bakery checks 40 of the 1200 rolls it makes in a day.

- a) Estimate how many of the 1200 are underbaked.
b) Another day, 40 rolls give an estimate of 150 underbaked. How many of the 40 were underbaked?

	Underbaked	Total
Sample	3	40
Day	90	1200

a) $1200 \div 40 = 30$, $3 \times 30 = 90$

b) $150 \div 30 = 5$

8 Reliable samples

Leo wants to know how many people in his town use the library. He asks 20 people outside the library.

- a) Give two reasons why his results may not be reliable.
b) Describe a better way for Leo to choose his sample.

a) the sample is small; people outside the library are likely to use it (biased)

b) ask more people, picked at random from the whole town