Handling data answers

Pages 76–77 Statistics

1 a ⊥⊥⊥⊤ ||| and ⊥⊥⊥⊤ | **b** 2 and 1   **c** 28 days

2 a Frequencies are 2, 4, 5, 4, 7, 3, 3, 2 *(1 mark for 5 or more frequencies correct)*

b 7   **c**
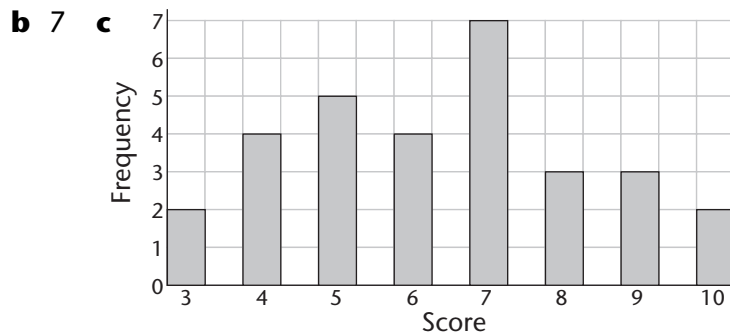
3 3

4 a 6   **b** 12

5 a 12   **b** 5

6 a 1   **b** 4

7 a 31   **b** 19 °C   **c** 4 °C   **d** July, hot

Pages 78–79 Mode, median and mean

1 7

2 30

3 a 38   **b** 38   **c** 37.4

4 a 24   **b** 23   **c** 22

5 a 3   **b** 4   **c** 3.9

6 a 30   **b** 2   **c** 57   **d** 1.9

7 a False   **b** False   **c** True

8 a 10X: 0, 10Y: 4   **b** 10X: 2, 10Y: 2.5   **c** 10X: 2.2, 10Y: 2.5   **d** 10Y: bigger averages.

Pages 80–81 Comparing distributions

1 B

2 6, 6, 9

3 4, 5, 9

4 2, 8, 8 and 8, 8, 14

5 B more consistent and mode is 0

6 a, b and d

7 a, b and c

8 a both 2.5 **b** Aisha 7, Sarah 3 **c** Aisha as she sometimes scores lots of goals in one match or Sarah as she is more consistent

9 a i 7 **ii** 7 **b i** 10 **ii** 4 **c** Outside is more consistent or greenhouse has more tomatoes on some plants

Pages 82–83 Line graphs

1 a 14 °C **b** Thursday and Saturday **c** Friday 17 °C **d** Line has no meaning. Temperature changes throughout the day. Values are just the value at 12 midday.

2 a Midnight 4 °C, Midday 6 °C **b** 6 °C **c** Friday 13 °C

3 a 1900 miles **b** 5500 miles **c** June

4 a About 9500 **b** No, still above 5000 and may not drop below **c** Yes, change is continuous, so about 15 000

5 No, can't assume it keeps raining but if depth continues to rise at same rate as between 10 am and 11 am area will flood by 2 pm.
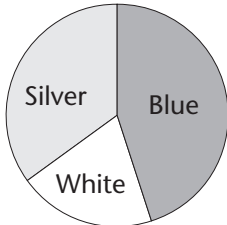
MATHS WORKBOOK 3–6

Handling data answers

Pages 84–85 Pie charts

1 3 : 1

2 160°, 60°, 140°, 360° *(1 mark for first three)*

3 **a** Angles: Blue 162°, White 72°, Silver 126° *(1 mark for any two)*

   b

   (1 mark if any sector wrong or if not labelled)

4 15

5 160

6 40

7 c

8 a

9 Angles: British 162°, American 90°, French 72°, German 36°
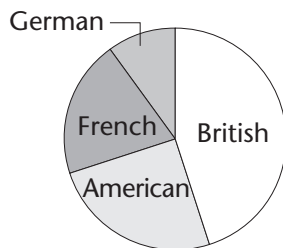
10 Angles: Blue 216°, Silver 108°, Black 36°
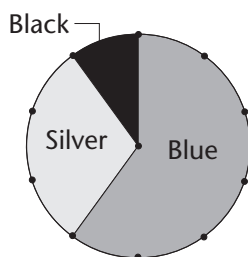
Pages 86–87 Frequency diagrams

1 a 11, 9, 6, 4   **b**
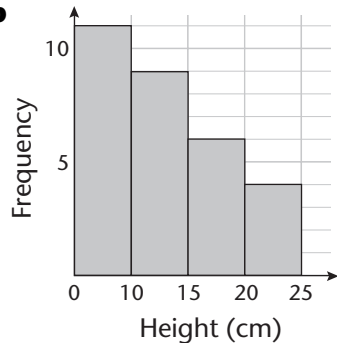
2 a 27   **b** 14   **c** 0, 1 or 2

3 a, b and d

4

```
0 | 7 8 8 8 9
1 | 1 2 3 3 5 7 8 9
2 | 1 2
```

5 a 16   **b** 7   **c** 56   **d** 102

6
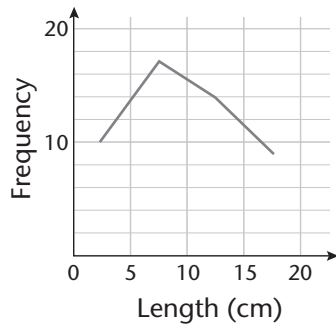
7 a 34   **b** 22   **c** 21 years

Pages 88–89 Scatter diagrams

1 a i W **ii** N **iii** K **iv** G **b i** N **ii** G **iii** S **iv** K

2 a
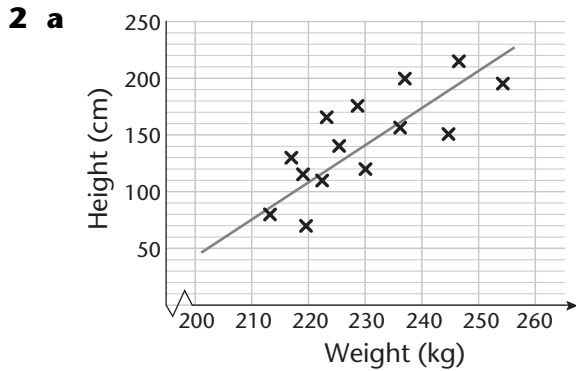
b 150 cm   **c** No, doesn't fit line of best fit.

3 $2\frac{1}{2}$ hours

4 a, c and d

5 a, b and d

6 a Weak positive   **b**
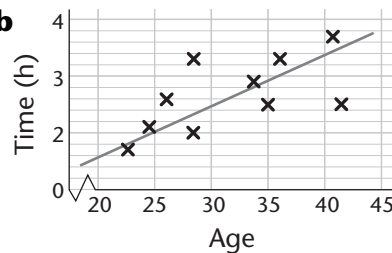
c $3\frac{1}{2}$ – 4 hours

Pages 90–91 Surveys

1 b and c

2 a i Not enough responses **ii** Not enough responses **iii** Not relevant to question
  b Good range of responses that covers all views

3 1 Leading question, 2 offensive question

4 Derek. Others are biased, Derek gets a random sample.

5 Not enough responses

6 Quota sampling, will give a varied sample

7 All the men and only a fraction of women is not representative.

8 a i Not enough responses **ii** Not enough responses **iii** Not relevant to question
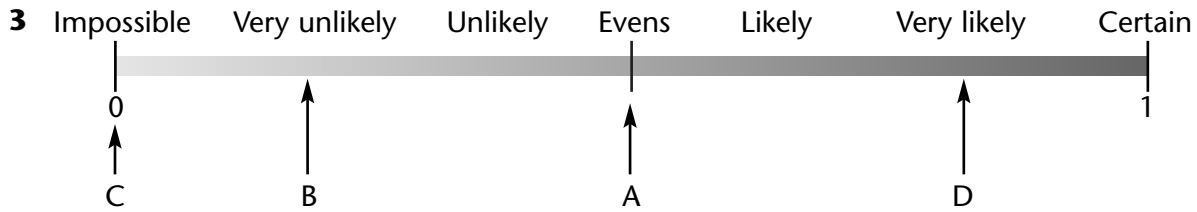 **b** Good range of responses which can be analysed mathematically

9 Owen. All methods give a random sample but the more pupils surveyed the better.

Handling data answers

Pages 92–93 Probability 1

1 $\frac{1}{2}$

2 $\frac{1}{2}$

3

Impossible	Very unlikely	Unlikely	Evens	Likely	Very likely	Certain

0   1

C   B   A   D

4 a $\frac{3}{5}$ **b** $\frac{2}{5}$

5 a $\frac{7}{10}$ **b** $\frac{3}{10}$

6 $\frac{3}{7}$

7 3

8 $\frac{11}{20}$

9 C   A   B   D

0      $\frac{1}{2}$ 1   *(1 mark if 3 correct)*
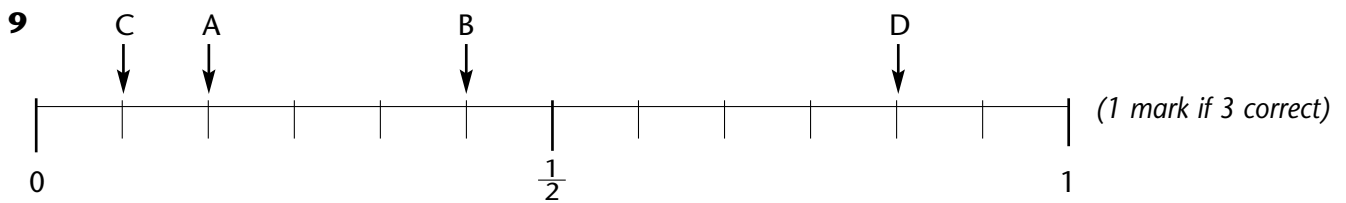
10 a $\frac{2}{5}$ **b** $\frac{2}{3}$

Pages 94–95 Probability 2

1 a $\frac{2}{5}$ **b** $\frac{2}{3}$

2 $\frac{11}{25}$

3 Red 8, Blue 2

4 a $\frac{1}{4}$ **b** $\frac{1}{2}$

5 a HHH, HHT, HTH, HTT, THH, THT, TTH, TTT   **b** $\frac{1}{8}$

6 a $\frac{1}{6}$ **b** $\frac{1}{12}$ **c** $\frac{1}{6}$

7 a $\frac{9}{25}$ **b** $\frac{13}{25}$

8 a

First score

	1	2	3	4
1	2	3	4	5
2	3	4	5	6
3	4	5	6	7
4	5	6	7	8

(Second score)

b i $\frac{1}{2}$ **ii** $\frac{3}{16}$ **iii** $\frac{3}{8}$