

Statistics

ANSWERS

Calculator | 30 minutes | Total marks: 24

Name Class

- 1 The table shows the heights of 20 students.

Height, h (cm)	Frequency	Midpoint	Frequency $\times$ midpoint
$140 < h \leq 150$	4	145	580
$150 < h \leq 160$	10	155	1550
$160 < h \leq 170$	6	165	990 (1)(1)

Work out an estimate for the mean height.

$$3120 \div 20 \text{ (1)}$$

Answer 156 (1) cm [4 marks]

- 2 The table shows the number of goals scored in 20 matches.

Number of goals	0	1	2	3	4
Frequency	3	7	6	3	1

- (a) Work out the mean number of goals.

$$0 + 7 + 12 + 9 + 4 = 32 \text{ (1)}$$

$$32 \div 20 \text{ (1)}$$

Answer 1.6 (1) [3 marks]

- (b) Work out the median number of goals.

between the 10th and 11th values (1)

Answer 1.5 (1) [2 marks]

3

Here are the ages of five people at a party.

12 14 15 13 46

(a) Work out the mean age.

$$100 \div 5 \text{ (1)}$$

Answer 20 (1)

[2 marks]

(b) Explain why the median is a better average to use for these ages.

The mean is pulled up by the outlier, 46 (1)

[1 mark]

4

The table shows the mean and the range of the times, in seconds, of two swimmers.

	Mean	Range
Asha	31	6
Bella	33	2

Compare the times of the two swimmers.

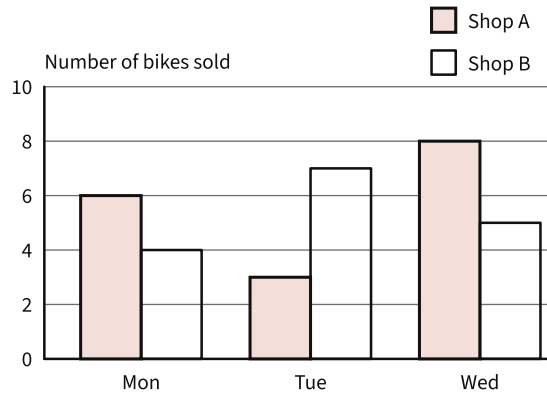
Asha is faster on average, her mean time is lower (1)

Bella is more consistent, her range is smaller (1)

[2 marks]

5

The dual bar chart shows the number of bikes sold by two shops on three days.



(a) How many bikes did Shop B sell on Tuesday?

Answer 7 (1)

[1 mark]

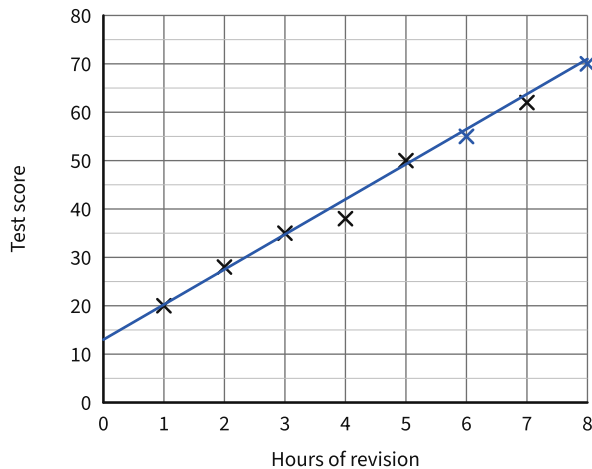
(b) On which day did Shop A sell 3 more bikes than Shop B?

Answer Wednesday (1)

[1 mark]

6

The scatter graph shows the hours of revision and the test scores of six students.



- (a) Describe the correlation.

Answer *positive (1)* [1 mark]

- (b) Two more students did the test. One revised for 6 hours and scored 55. The other revised for 8 hours and scored 70

Plot these two points and draw a line of best fit.

Points plotted (1) Line of best fit (1) [2 marks]

- (c) Use your line to estimate the score of a student who revised for 4.5 hours.

Answer *45 (1) accept 40 to 50* [1 mark]

- (d) Dan says, "Revising for longer causes a higher score."

Explain why the graph does not prove this.

Correlation does not show that one thing causes the other (1)

[1 mark]

7

60 people were asked how they travel to work.

Complete the table to show the angle of each sector in a pie chart.

Transport	Frequency	Angle
Car	30	180°
Bus	20	120° (1)
Walk	10	60° (1)

$$360 \div 60 = 6^\circ \text{ for each person (1)}$$

[3 marks]

Question	Topic	RAG
1	I can estimate a mean from a grouped table	
2	I can find the mean and median from a frequency table	
3	I understand the effect of an outlier	
4	I can compare two sets of data	
5	I can read a dual bar chart	
6	I can use a scatter graph and a line of best fit	
7	I can work out angles for a pie chart	