

Mean – Median – Mode - Range

Question Paper 1

Level	IGCSE
Subject	Maths (0580)
Exam Board	Cambridge International Examinations (CIE)
Paper Type	Extended
Topic	Statistics
Sub-Topic	Mean, Median, Mode, Range
Booklet	Question Paper 1

Time Allowed: 58 minutes

Score: /48

Percentage: /100

Grade Boundaries:

A*	A	B	C	D	E	U
>85%	75%	60%	45%	35%	25%	<25%

- 1 Shahruk plays four games of golf.
His four scores have a mean of 75, a mode of 78 and a median of 77.

Work out his four scores.

..... [3]

Answer $x =$ [1]

- 2 7 9 20 3 9

- (a) A number is removed from this list and the median and range do not change.

Write down this number.

Answer(a) [1]

- (b) An extra number is included in the original list and the mode does not change.

Write down a possible value for this number.

Answer(b) [1]

3 Jim scores the following marks in 8 tests.

7 8 y 6

His mean mark is 7.5 .

Calculate the value of y .

Answer $y =$ [2]

4 Cheryl recorded the midday temperatures in Seoul for one week in January.

Day	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Temperature ($^{\circ}\text{C}$)	-4	-5	-3	-11	-8	-3	-1

(a) Write down the mode.

Answer(a) $^{\circ}\text{C}$ [1]

(b) On how many days was the temperature lower than the mode?

Answer(b) [1]

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- 5 (a) Ricardo asks some motorists how many litres of fuel they use in one day. The numbers of litres, correct to the nearest litre, are shown in the table.

Number of litres	16	17	18	19	20
Number of motorists	11	10	p	4	8

- (i) For this table, the mean number of litres is 17.7 .

Calculate the value of p .

Answer(a)(i) $p = \dots\dots\dots$ [4]

- (ii) Find the median number of litres.

Answer(a)(ii) $\dots\dots\dots$ litres [1]

- (b) Manuel completed a journey of 320 km in his car. The fuel for the journey cost \$1.28 for every 6.4 km travelled.

- (i) Calculate the cost of fuel for this journey.

Answer(b)(i) \$ $\dots\dots\dots$ [2]

- (ii) When Manuel travelled 480 km in his car it used 60 litres of fuel. Manuel's car used fuel at the same rate for the journey of 320 km.

Calculate the number of litres of fuel the car used for the journey of 320 km.

Answer(b)(ii) $\dots\dots\dots$ litres [2]

- (iii) Calculate the cost per litre of fuel used for the journey of 320 km.

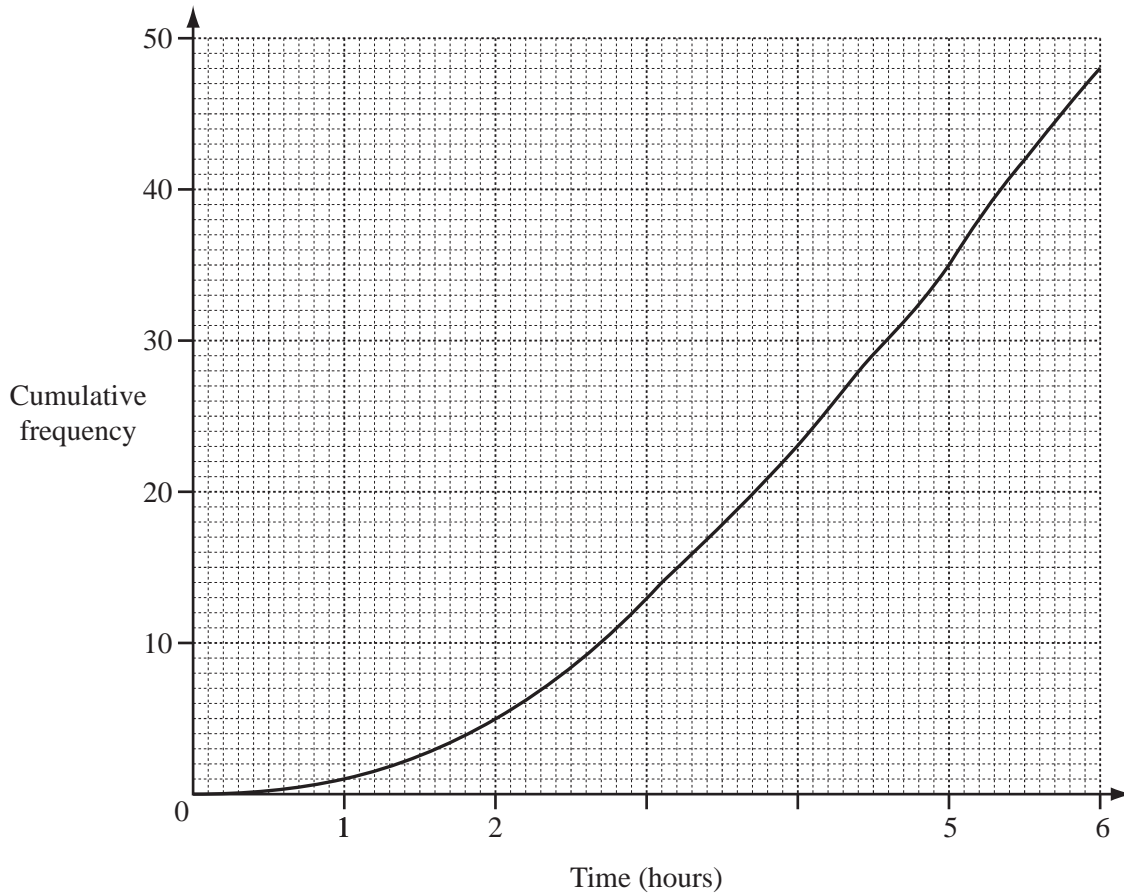
Answer(b)(iii) \$ $\dots\dots\dots$ [2]

- (c) Ellie drives a car at a constant speed of 30 m/s correct to the nearest 5 m/s.
She maintains this speed for 5 minutes correct to the nearest 10 seconds.

Calculate the upper bound of the distance in **kilometres** that Ellie could have travelled.

Answer(c) km [5]

- 6 During one day 48 people visited a museum.
 The length of time each person spent in the museum was recorded.
 The results are shown on the cumulative frequency diagram.



Work out

- (a) the median,

Answer(a) h [1]

- (b) the 20th percentile,

Answer(b) h [2]

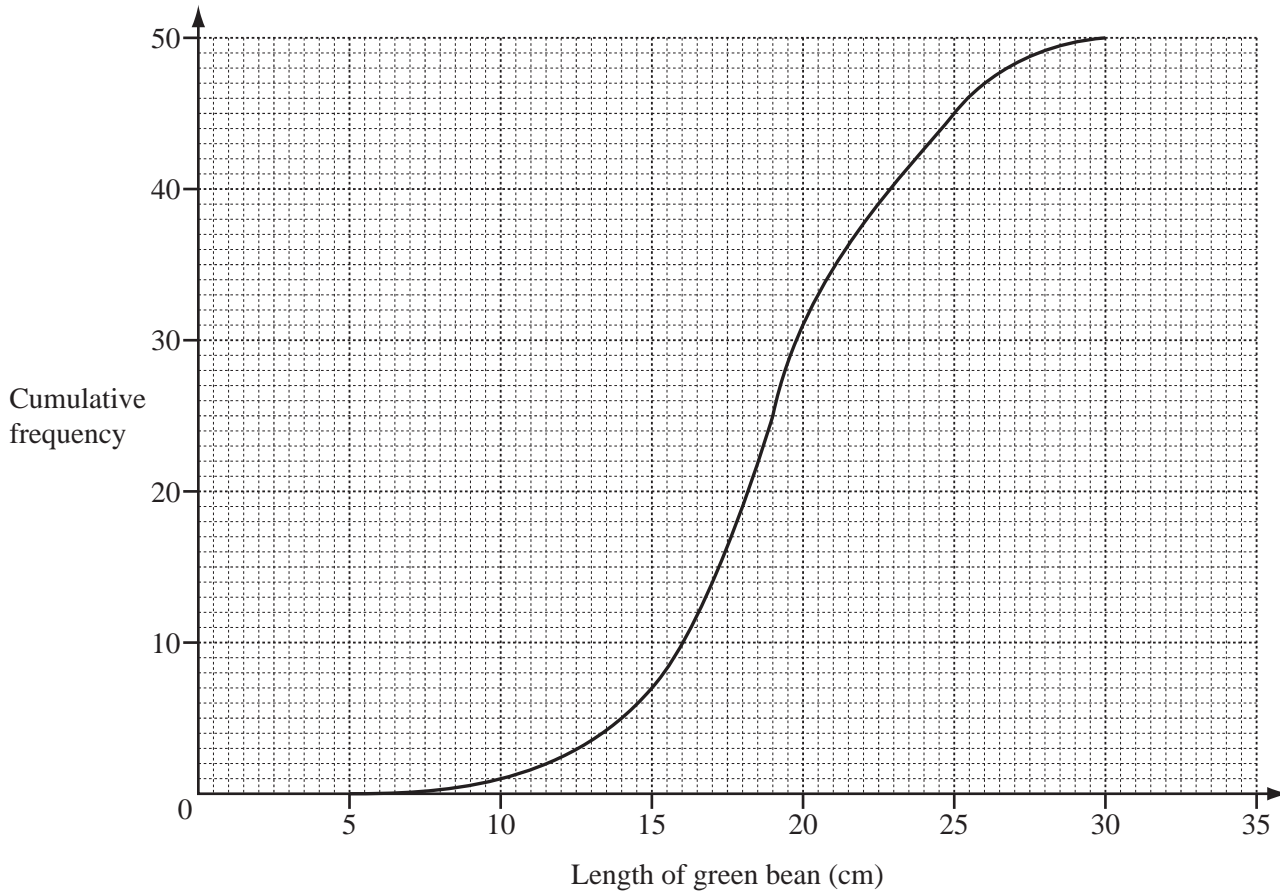
- (c) the inter-quartile range,

Answer(c) h [2]

- (d) the probability that a person chosen at random spends 2 hours or less in the museum.

Answer(d) [2]

- 7 A gardener measured the lengths of 50 green beans from his garden.
The results have been used to draw this cumulative frequency diagram.



Work out

- (a) the median,

Answer(a) cm [1]

- (b) the number of green beans that are longer than 26 cm,

Answer(b) [2]

- (c) the inter-quartile range,

Answer(c) cm [2]

- (d) the probability that a green bean chosen at random is more than 14 cm long.

Answer(d) [2]

8 The heights, in metres, of 200 trees in a park are measured.

Height (h m)	$2 < h \leq 6$	$6 < h \leq 10$	$10 < h \leq 13$	$13 < h \leq 17$	$17 < h \leq 19$	$19 < h \leq 20$
Frequency	23	47	45	38	32	15

(a) Find the interval which contains the median height.

Answer(a) [1]

(b) Calculate an estimate of the mean height.

Answer(b) m [4]

(c) Complete the cumulative frequency table for the information given in the table above.

Height (h m)	$2 < h \leq 6$	$h \leq 10$	$h \leq 13$	$h \leq 17$	$h \leq 19$	$h \leq 20$
Cumulative frequency	23					

[2] _

9 Leon scores the following marks in 5 tests.

8 4 y 9

His mean mark is 7.2.

Calculate the value of y .

Answer $y =$ [2]