Cumulative Frequency
Difficulty: Hard

Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Statistics
Sub-Topic	Cumulative Frequency
Paper	Paper 2
Difficulty	Hard
Booklet	Question Paper 1

Time allowed: **39 minutes**

Score: **/30**

Percentage: **/100**

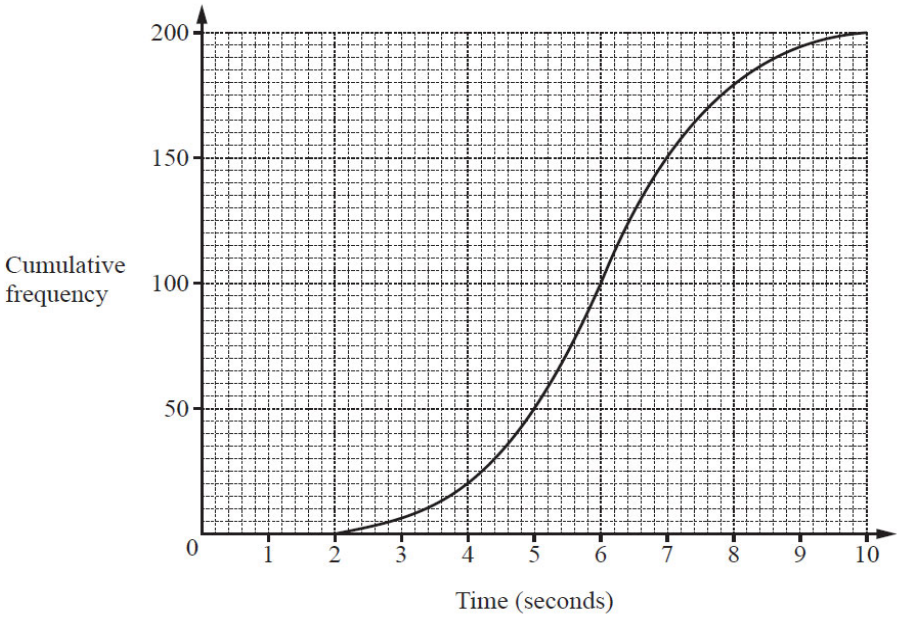
Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%



200 students take a reaction time test.
The cumulative frequency diagram shows the results.

Find

(a) the median,

[1]

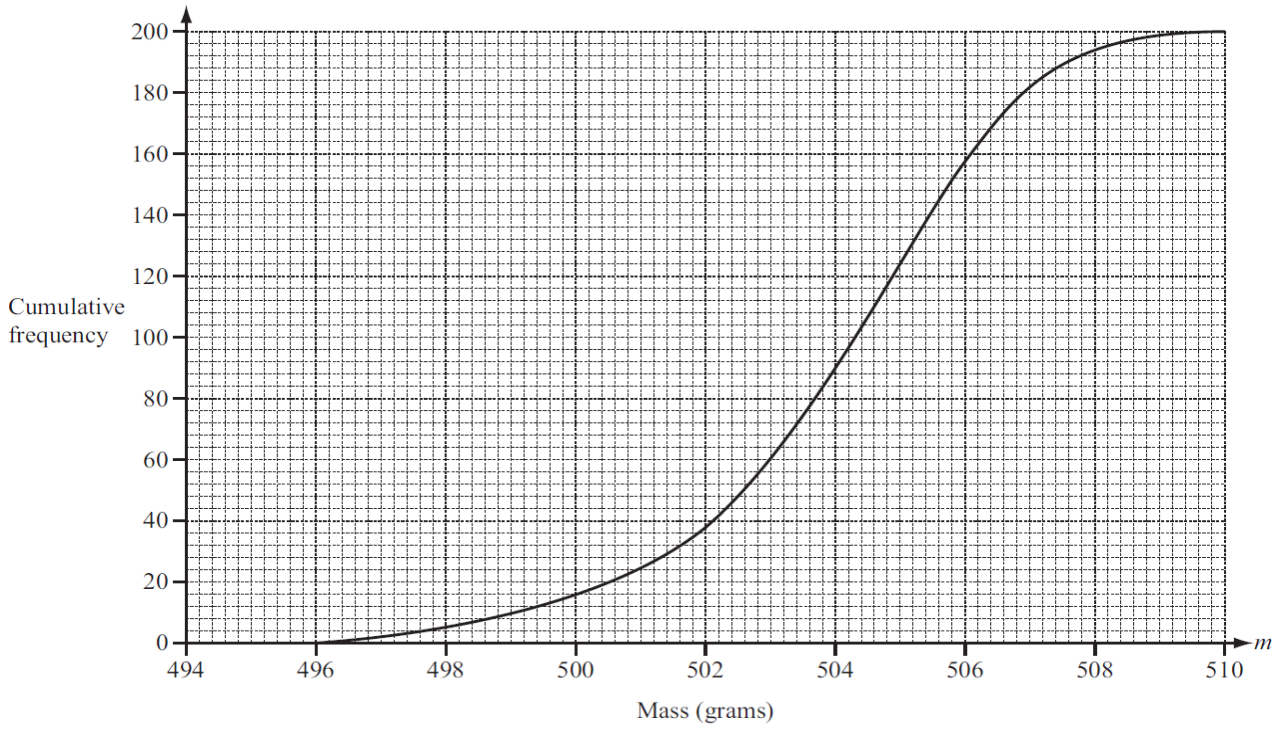
(b) the inter-quartile range,

[2]

(c) the number of students with a reaction time of more than 4 seconds.

[2]

The mass, m grams, of cornflakes in each of 200 boxes is recorded.
The cumulative frequency diagram shows the results.



(a) Use the diagram to estimate the inter-quartile range. [2]

(b) Find the probability that a box chosen at random has a mass of 500 grams or less. [2]

(c)

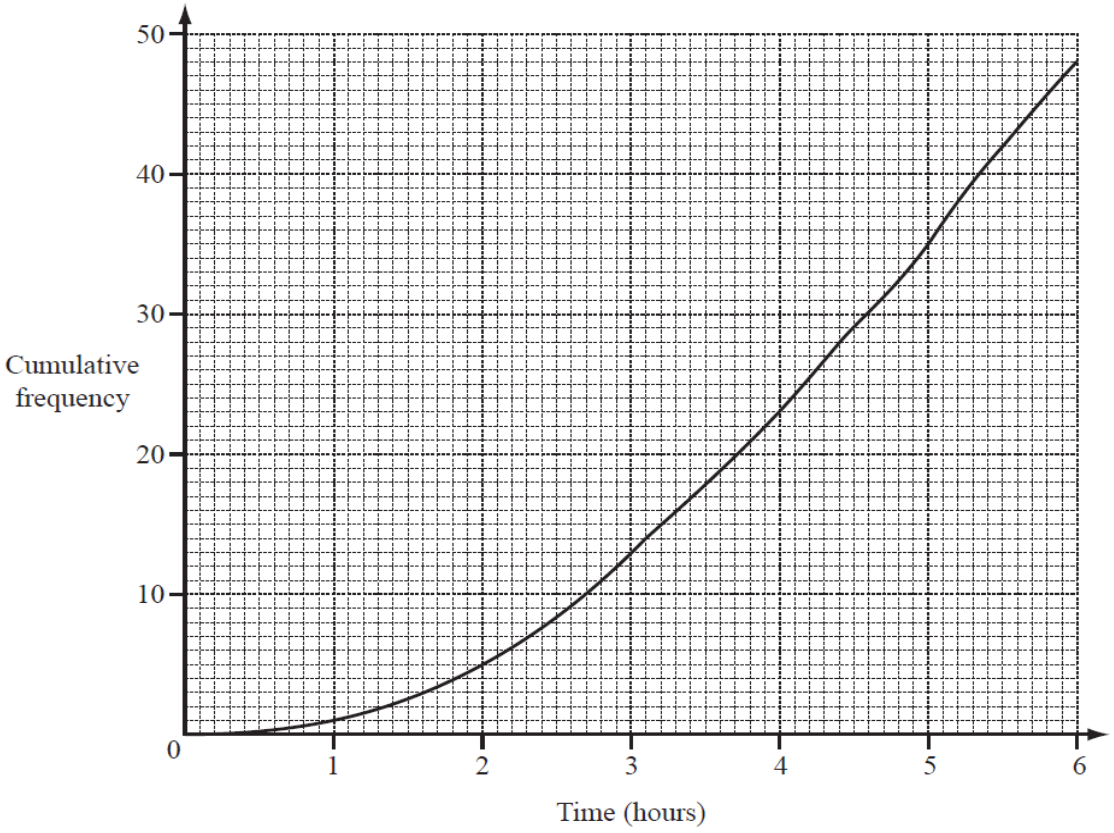
Mass (m grams)	$496 < m \leqslant 500$	$500 < m \leqslant 504$	$504 < m \leqslant 508$	$508 < m \leqslant 510$
Frequency	16	74	104	6

The data in this frequency table is to be shown in a histogram.

Complete the frequency density table below. [2]

Mass (m grams)	$496 < m \leqslant 500$	$500 < m \leqslant 504$	$504 < m \leqslant 508$	$508 < m \leqslant 510$
Frequency density	4			

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

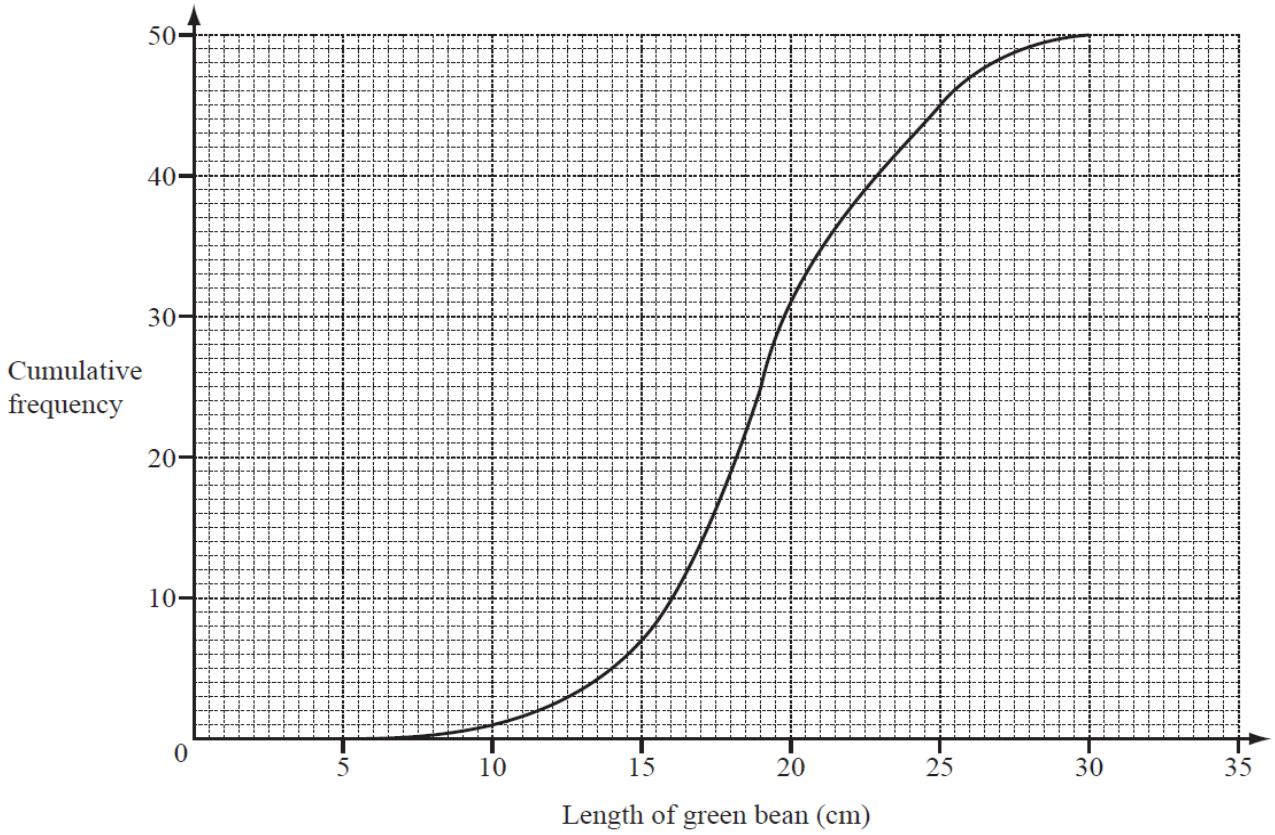
(a) the median, [1]

(b) the 20th percentile, [2]

(c) the inter-quartile range, [2]

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

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, [1]

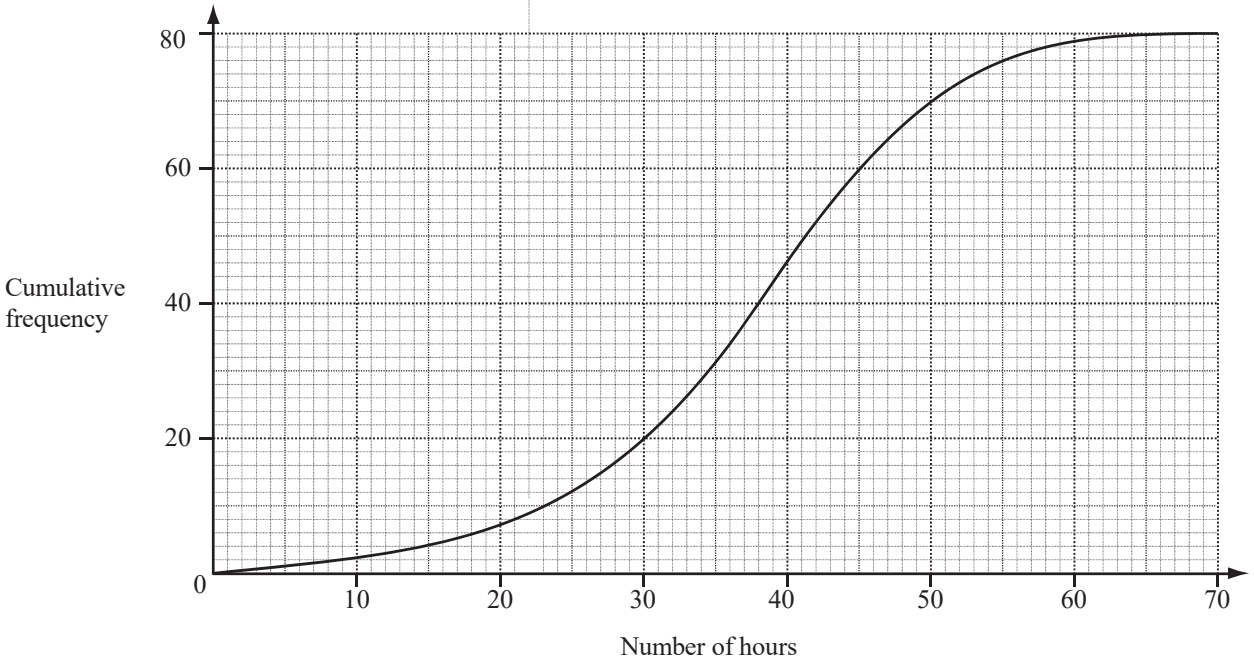
(b) the number of green beans that are longer than 26 cm, [2]

(c) the inter-quartile range, [2]

(d) the probability that a green bean chosen at random is more than 14 cm long. [2]

Question 5

The number of hours that a group of 80 students spent using a computer in a week was recorded. The results are shown by the cumulative frequency curve.



Use the cumulative frequency curve to find

(a) the median,

[1]

(b) the upper quartile,

[1]

(c) the interquartile range,

[1]

(d) the number of students who spent more than 50 hours using a computer in a week.

[2]