

# Cumulative Frequency

## Difficulty: Easy

### Question Paper 2

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

**Time allowed:** 28 minutes

**Score:** /22

**Percentage:** /100

#### Grade Boundaries:

##### CIE IGCSE Maths (0580)

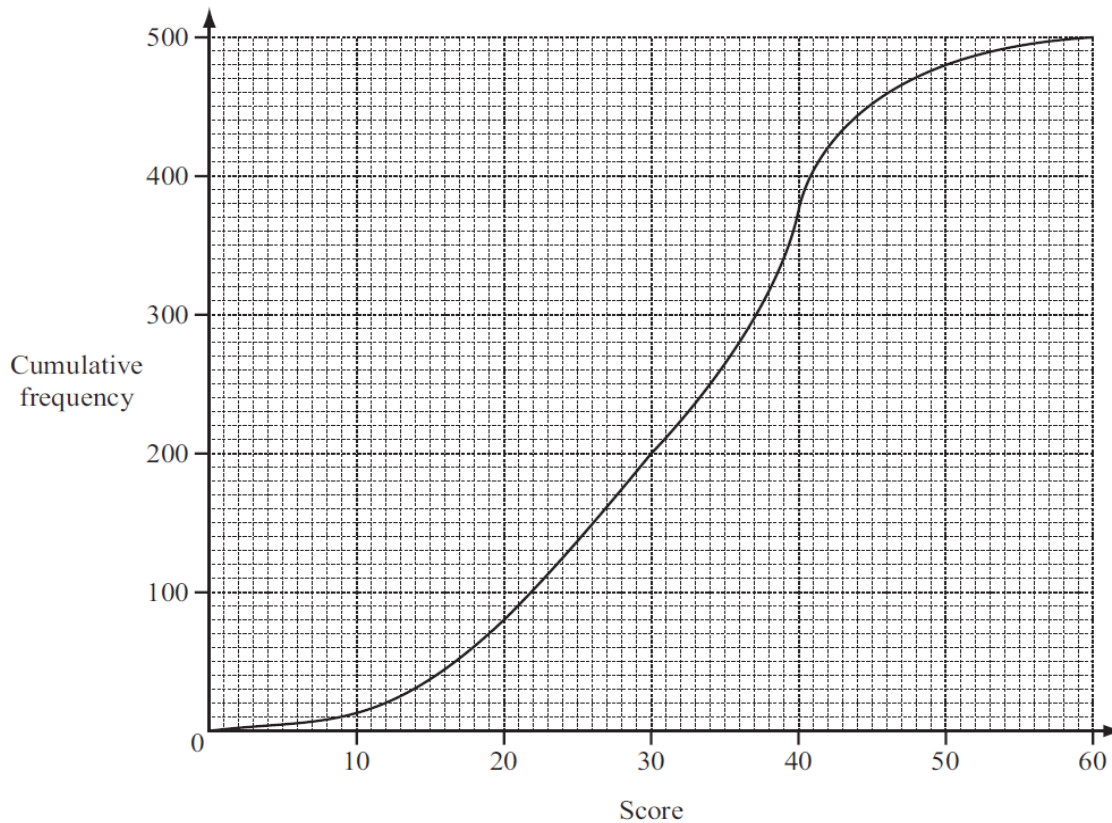
A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

##### CIE IGCSE Maths (0980)

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

# Question 1

Jenna draws a cumulative frequency diagram to show information about the scores of 500 people in a quiz.



Use the diagram to find

- (a) the median score, [1]
  
- (b) the inter-quartile range, [2]
  
- (c) the 40th percentile, [1]
  
- (d) the number of people who scored 30 or less but more than 20. [1]

## Question 2

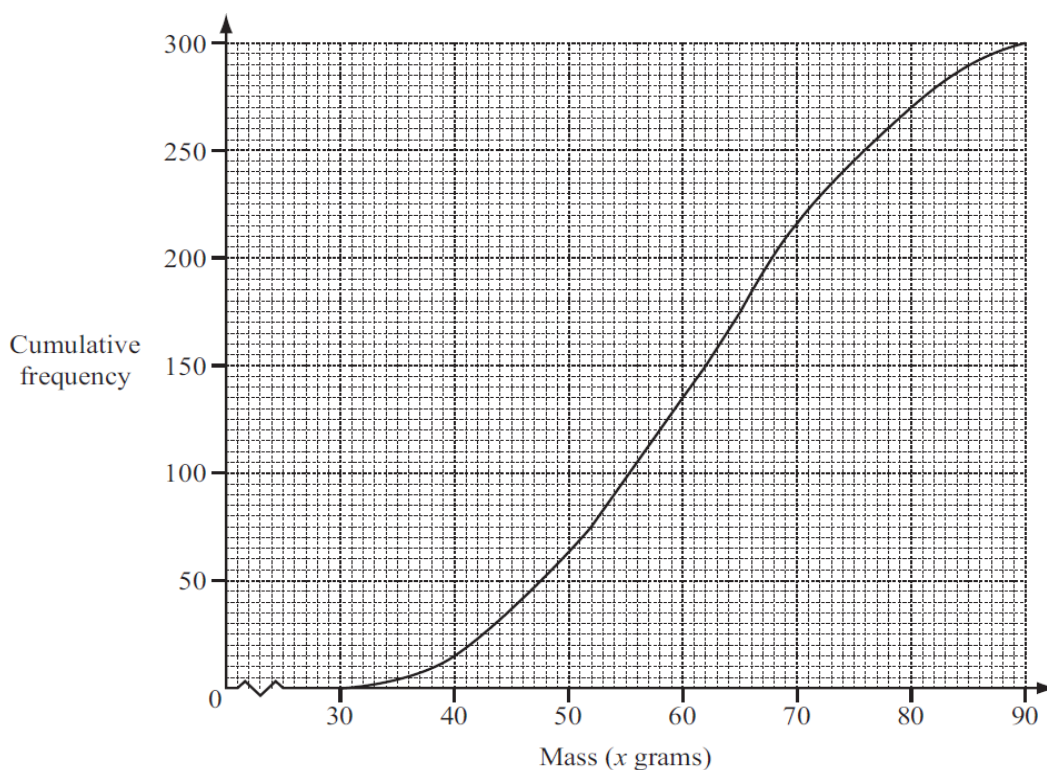
Lauris records the mass and grade of 300 eggs. The table shows the results.

Mass ( $x$ grams)	$30 < x \leq 40$	$40 < x \leq 50$	$50 < x \leq 60$	$60 < x \leq 70$	$70 < x \leq 80$	$80 < x \leq 90$
Frequency	15	48	72	81	54	30
Grade	small		medium	large	very large	

(a) Find the probability that an egg chosen at random is graded very large.

[1]

(b) The cumulative frequency diagram shows the results from the table.



Use the cumulative frequency diagram to find

(i) the median,

[1]

(ii) the lower quartile,

[1]

(iii) the inter-quartile range,

[1]

(iv) the number of eggs with a mass greater than 65 grams.

[2]

### Question 3

Mass of parcel ( $m$ kilograms)	$0 < m \leq 0.5$	$0.5 < m \leq 1.5$	$1.5 < m \leq 3$
Frequency	20	18	9

The table above shows information about parcels in a delivery van.

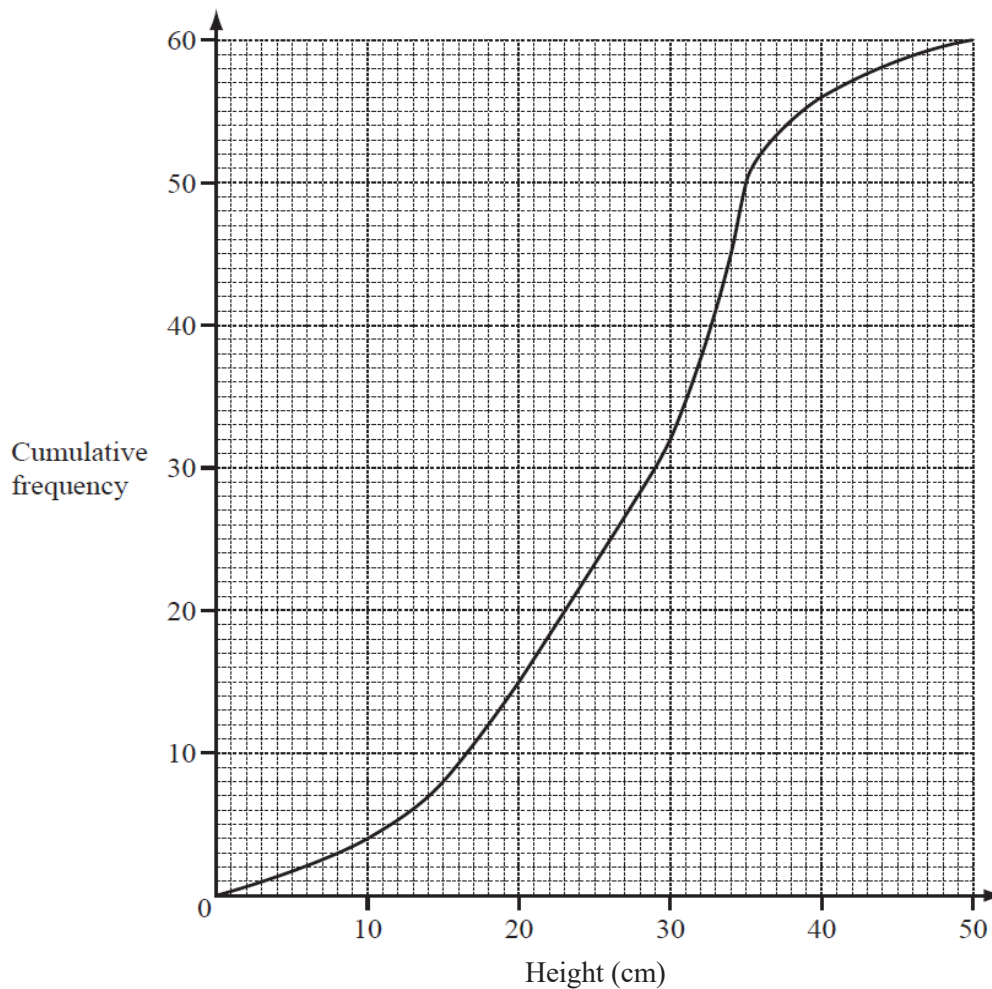
John wants to draw a histogram using this information.

Complete the table below.

Mass of parcel ( $m$ kilograms)	$0 < m \leq 0.5$	$0.5 < m \leq 1.5$	$1.5 < m \leq 3$
Frequency density		18	

[2]

### Question 4



The cumulative frequency diagram shows information about the heights of 60 tomato plants. Use the diagram to find

(a) the median,

[1]

(b) the lower quartile,

[1]

(c) the interquartile range,

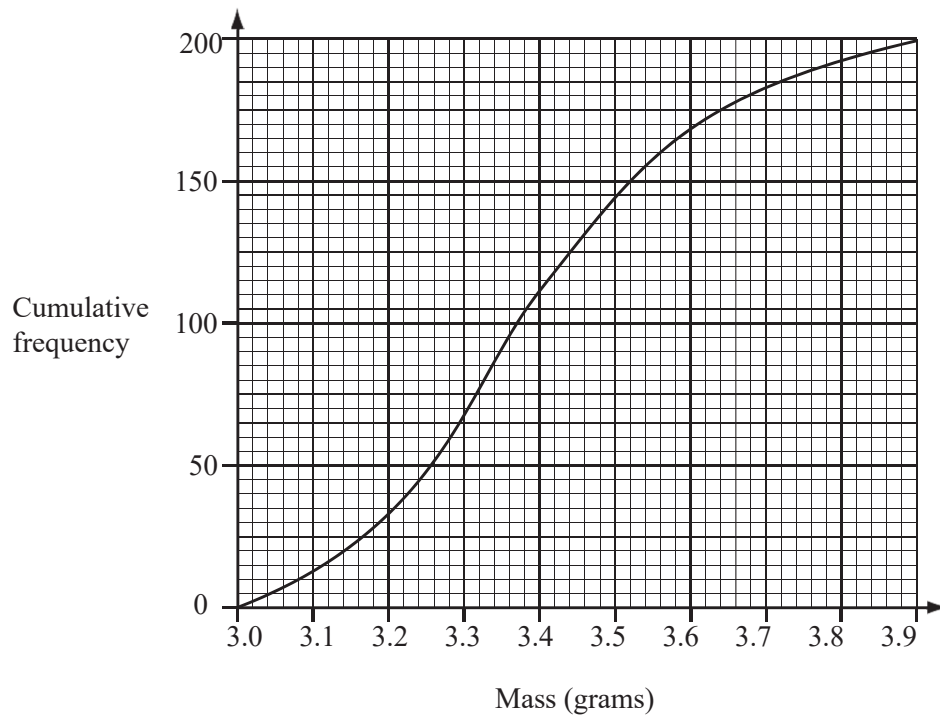
[1]

(d) the probability that the height of a tomato plant, chosen at random, will be more than 15 cm.

[2]

### Question 5

The mass of each of 200 tea bags was checked by an inspector in a factory. The results are shown by the cumulative frequency curve.



Use the cumulative frequency curve to find

(a) the median mass,

[1]

(b) the interquartile range,

[2]

(c) the number of tea bags with a mass greater than 3.5 grams.

[1]