

STATISTICAL MEASURES – IGCSE MATHEMATICS

NAME _____

Question 1

The table shows information about the number of hours each of 40 candles burned.

Number of hours (h)	Frequency
$15 < h \leq 19$	2
$19 < h \leq 23$	5
$23 < h \leq 27$	12
$27 < h \leq 31$	15
$31 < h \leq 35$	6

(a) Write down the modal class.

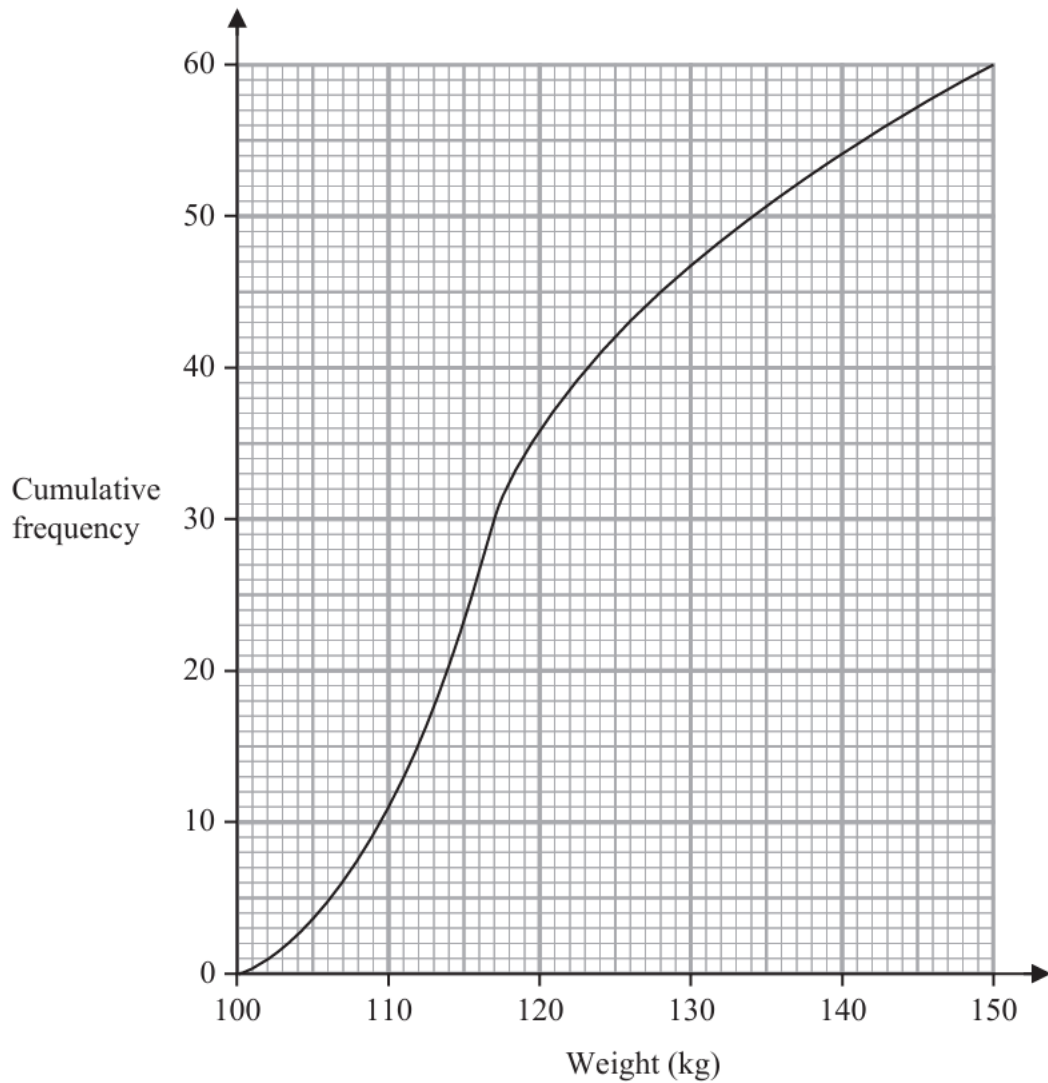
.....
(1)

(b) Work out an estimate for the mean number of hours.

..... hours
(4)

Question 2

The cumulative frequency graph gives information about the weights, in kg, of 60 crates.



(a) Use the graph to find an estimate for the median weight.

..... kg
(1)

(b) Use the graph to find an estimate for the interquartile range.

..... kg
(2)

Question 3

The table gives information about the number of kilometres that Ted cycled on each of the 30 days in April.

Number of kilometres (K)	Frequency
$0 \leq K < 5$	8
$5 \leq K < 10$	7
$10 \leq K < 15$	3
$15 \leq K < 20$	10
$20 \leq K < 25$	2

Calculate an estimate for the mean number of kilometres that Ted cycled on each day in April.

..... hours
(4)

Question 4

e, f and g represent integers such that

$e \qquad f \qquad 7 \qquad g \qquad 12 \qquad 17$

is a list of integers written in order of size.

The integers have

- a range of 15
- a median of 8.5
- a mean of 9

Work out the value of e , the value of f and the value of g

$e =$
 $f =$
 $g =$

Question 5

Ivan asked 15 people how many books they read last year.

Here are his results.

1 1 3 4 6 7 8 9 10 12 15 25 30 37 50

Work out the interquartile range of the number of books read.

.....[2]

Question 6

Rio has six cards.

He writes a number on each card so that

the range of the numbers is 10
the median of the numbers is 7.5
the mode of the numbers is 6

Rio arranges the cards so that the numbers are in order of size.

		6		10	14
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Three of the numbers are hidden.

Complete the cards above to show the three numbers that are hidden.

[3]

Question 7

The frequency table gives information about the times, in minutes, that 60 people took to complete a puzzle.

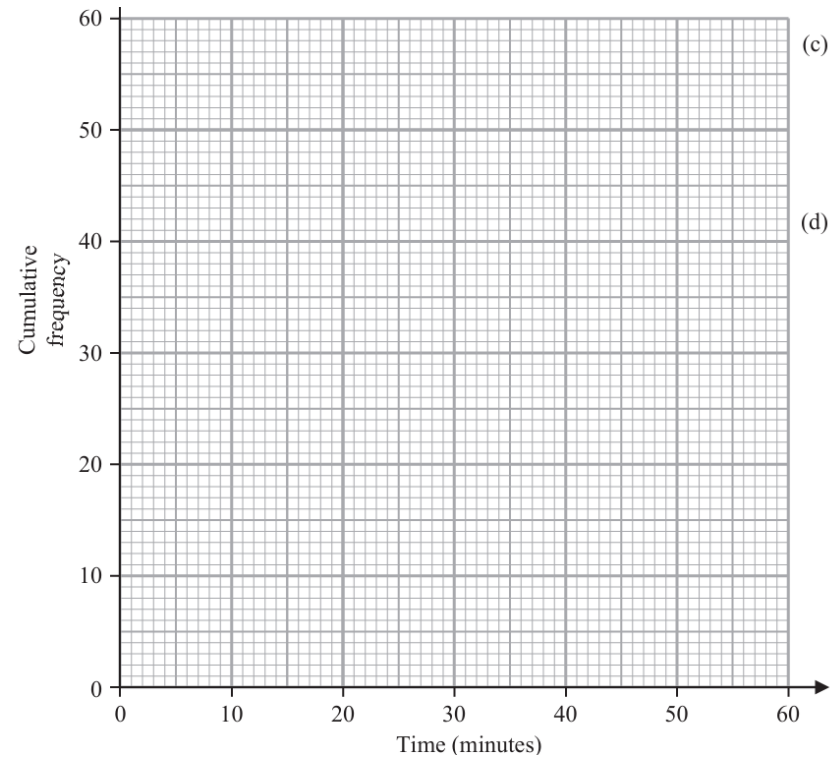
Time (t minutes)	Frequency
$0 < t \leq 10$	8
$10 < t \leq 20$	13
$20 < t \leq 30$	12
$30 < t \leq 40$	17
$40 < t \leq 50$	7
$50 < t \leq 60$	3

(a) Complete the cumulative frequency table.

Time (t minutes)	Cumulative frequency
$0 < t \leq 10$	
$0 < t \leq 20$	
$0 < t \leq 30$	
$0 < t \leq 40$	
$0 < t \leq 50$	
$0 < t \leq 60$	

[1]

(b) On the grid below , draw a cumulative frequency graph for your table.



(c) Use your graph to find an estimate for the median time.

[1]

(d) Use your graph to find an estimate for the number of these people who took more than 45 minutes to complete the puzzle.

[2]

Question 8

Here are eight numbers written in order of size

h 6 7 8 j 16 k k

where h, j and k are integers.

The median of the eight numbers is 10

The mode of the eight numbers is 18

The range of the eight numbers is 13

Work out the value of h , the value of j and the value of k

$h =$

$j =$

$k =$ **[3]**

Question 9

Robert asked 11 people how many meetings they attended last week.

Here are the results in numerical order.

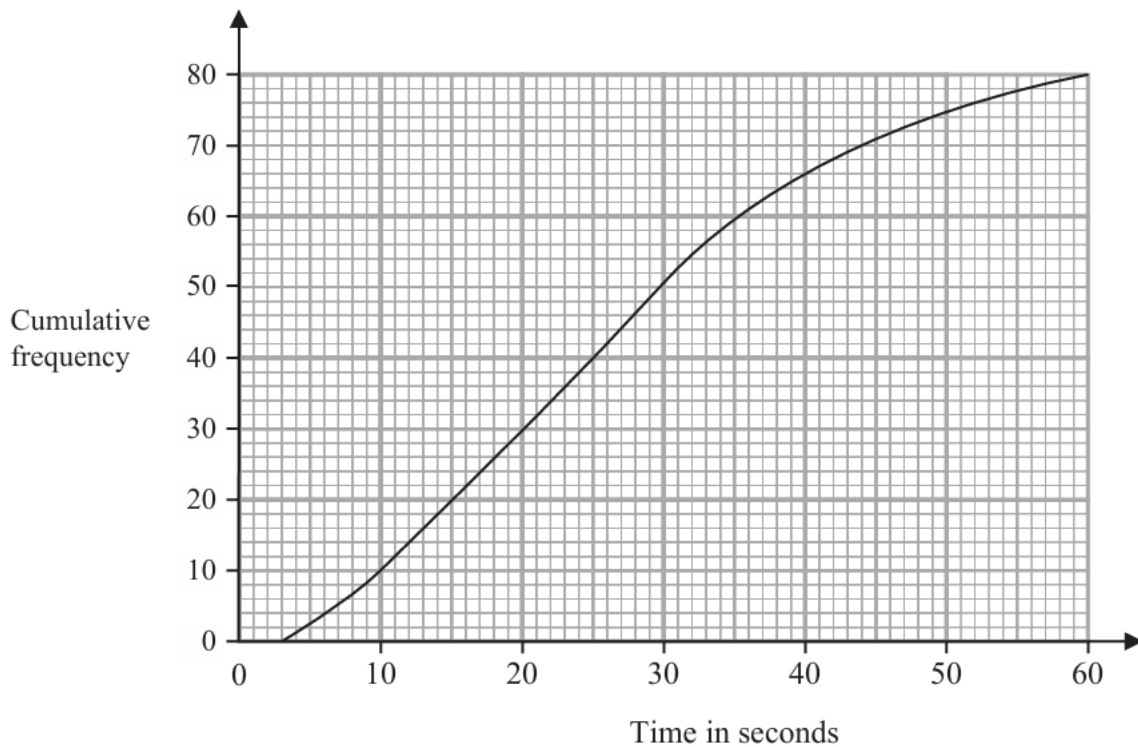
1 2 4 6 6 8 11 12 13 14 17

Find the interquartile range of the number of meetings.

[2]

Question 10

The cumulative frequency graph gives information about the times, in seconds, that 80 adults took to log in to an online bank.



- (a) Find an estimate for the median time.

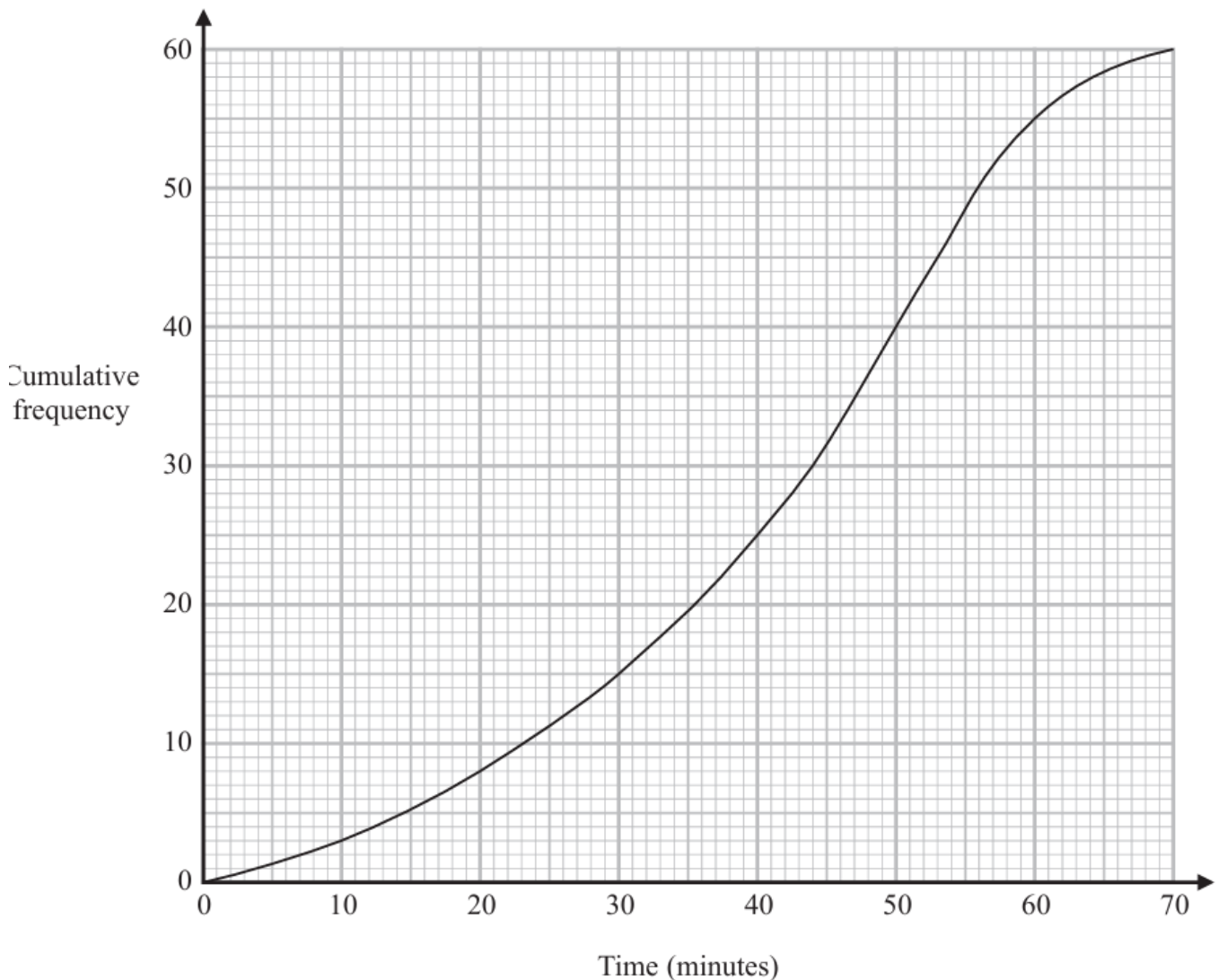
..... seconds
(1)

- (b) Work out the percentage of these adults that took longer than 50 seconds to log in.
Show your working clearly.

..... %
(3)

Question 11

The cumulative frequency graph gives information about the time, in minutes, each of 60 people took to shop in a market.



- (a) Use the graph to find an estimate for the median time people took to shop in the market.

..... minutes
(1)

- (b) Use the graph to find an estimate for the number of people who took longer than 55 minutes to shop in the market.

.....
(2)

- (c) Use the graph to complete the frequency table to give information about the time, in minutes, each of the 60 people took to shop in the market.

Time taken to shop in the market (m minutes)	Frequency
$0 < m \leq 10$	3
$10 < m \leq 20$	5
$20 < m \leq 30$	
$30 < m \leq 40$	
$40 < m \leq 50$	
$50 < m \leq 60$	
$60 < m \leq 70$	

(2)

Question 12

Here are some integers where $a < b < c < d$

$a \qquad b \qquad c \qquad d \qquad d \qquad d$

The mode of the integers is 9

The median of the integers is 8

The range of the integers is 4

Work out the value of a , the value of b , the value of c and the value of d

$a = \dots\dots\dots$

$b = \dots\dots\dots$

$c = \dots\dots\dots$

$d = \dots\dots\dots$

[4]

