

13 (a) 100 students solve a puzzle.

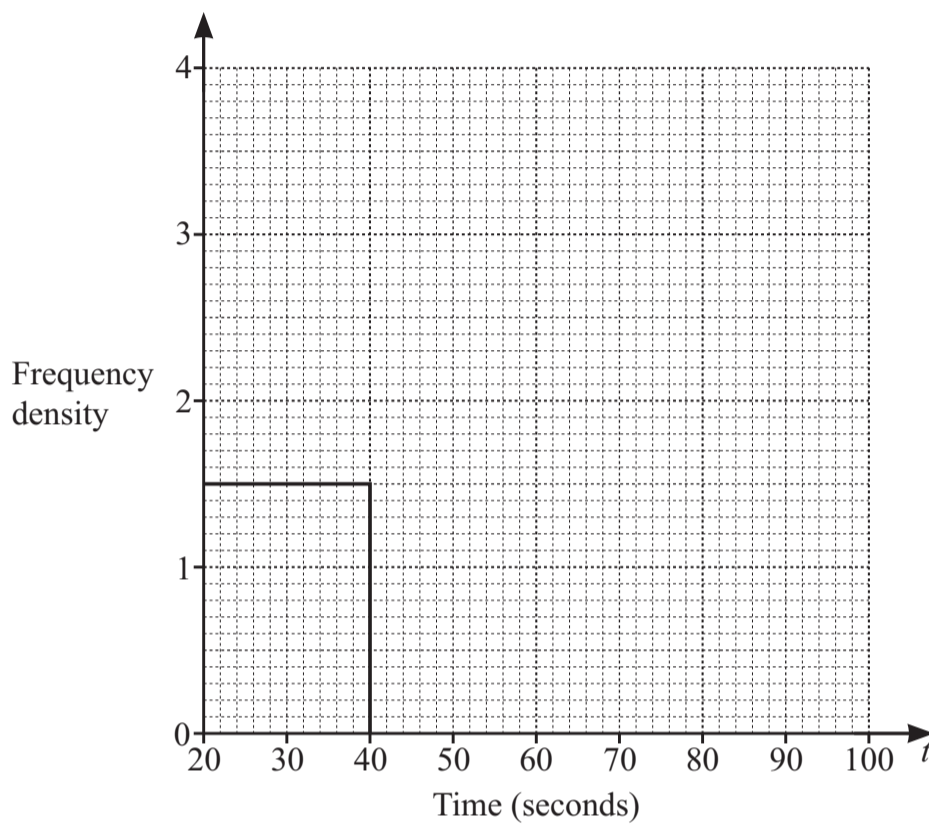
The table shows information about the time taken by each student to solve the puzzle.

Time (t seconds)	$20 < t \leq 40$	$40 < t \leq 60$	$60 < t \leq 100$
Frequency	30	40	30

(i) Work out an estimate of the mean.

..... s [4]

(ii) Complete the histogram to show the information in the table.



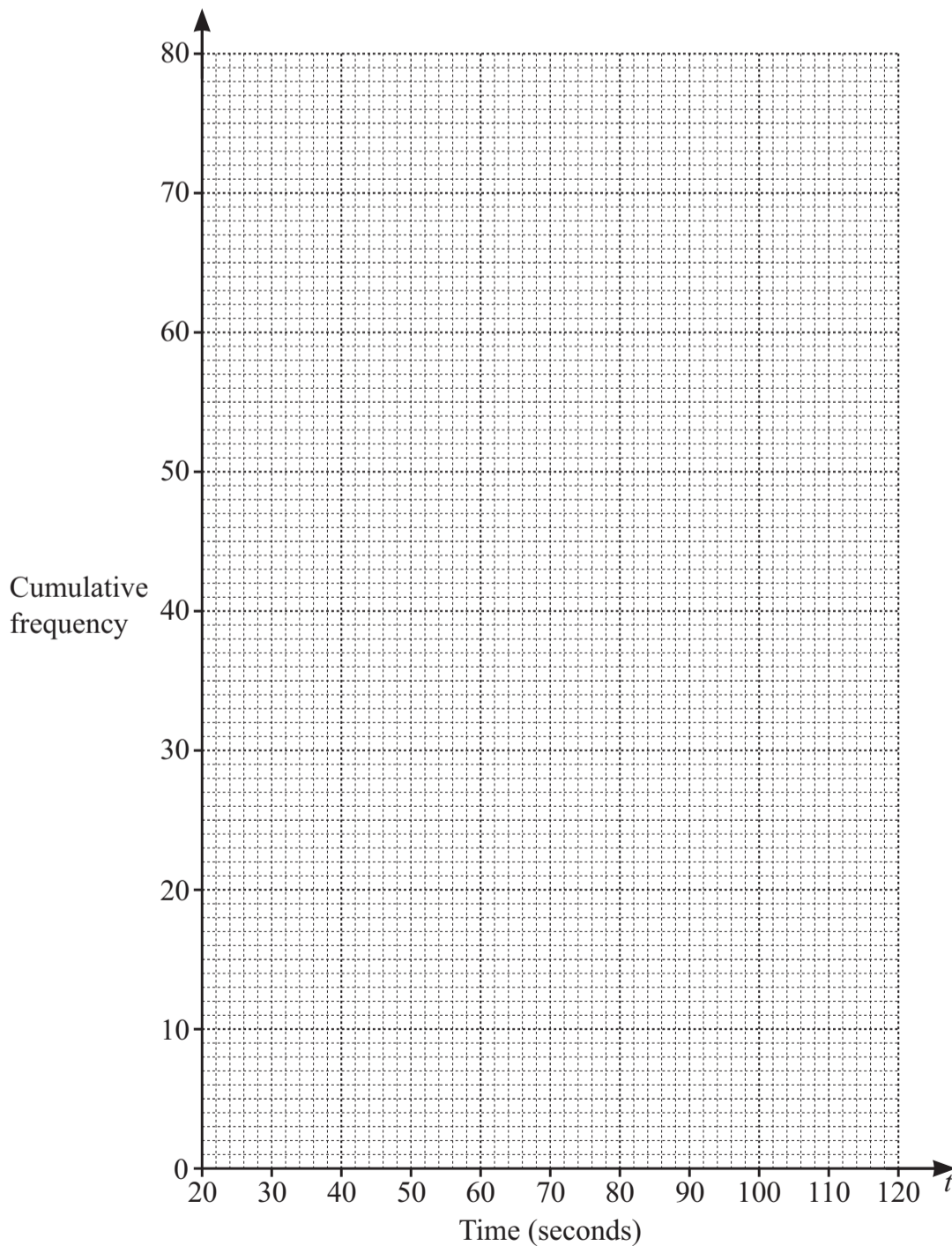
[2]

(b) 80 adults solve the same puzzle as the students.

The cumulative frequency table shows information about the time taken by each adult to solve the puzzle.

Time (t seconds)	$t \leq 20$	$t \leq 40$	$t \leq 60$	$t \leq 80$	$t \leq 100$	$t \leq 120$
Cumulative frequency	0	12	36	60	74	80

(i) On the grid, draw a cumulative frequency diagram.



[3]

(ii) Use your cumulative frequency diagram to find an estimate for

(a) the median

..... s [1]

(b) the lower quartile.

..... s [1]