Histograms
Videos 158 and 159 on www.corbettmaths.com

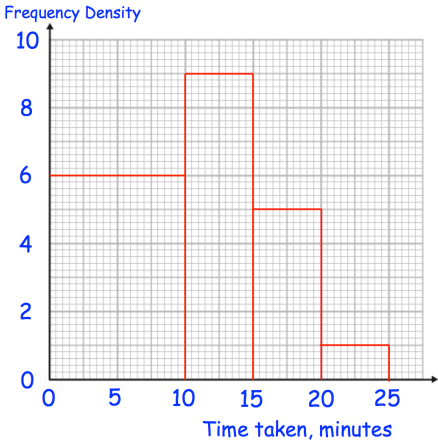Corbett maths

Examples

Workout

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Question 1: The histogram shows information about the time taken to travel to school by students.
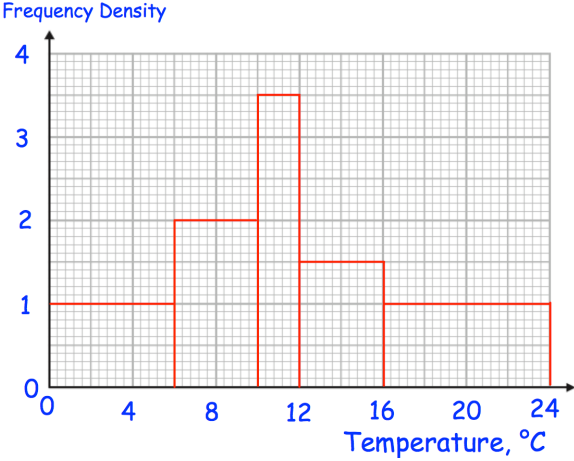
Complete the frequency table.

Time taken, minutes	Frequency
$0 < t \le 10$	
$10 < t \le 15$	
$15 < t \le 20$	
$20 < t \le 25$	

Question 2: The histogram shows information about the temperatures in various locations.
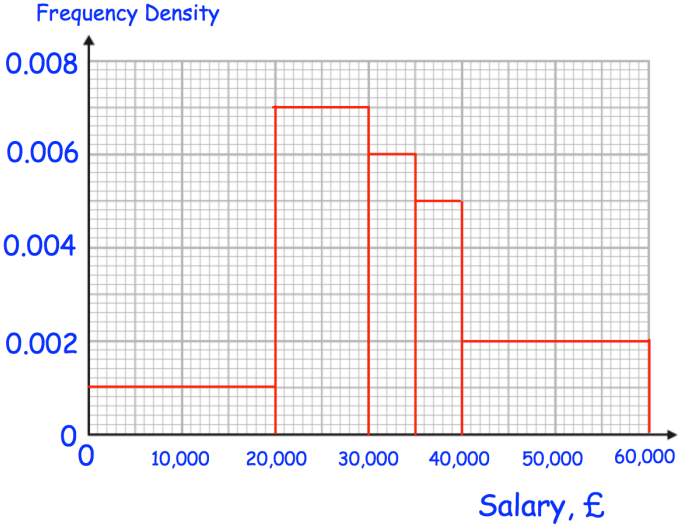
Complete the frequency table.

Temperature, °C	Frequency
$0 < t \le 6$	
$6 < t \le 10$	
$10 < t \le 12$	
$12 < t \le 16$	
$16 < t \le 24$	

Question 3: The histogram shows information about the salaries of workers in a company.
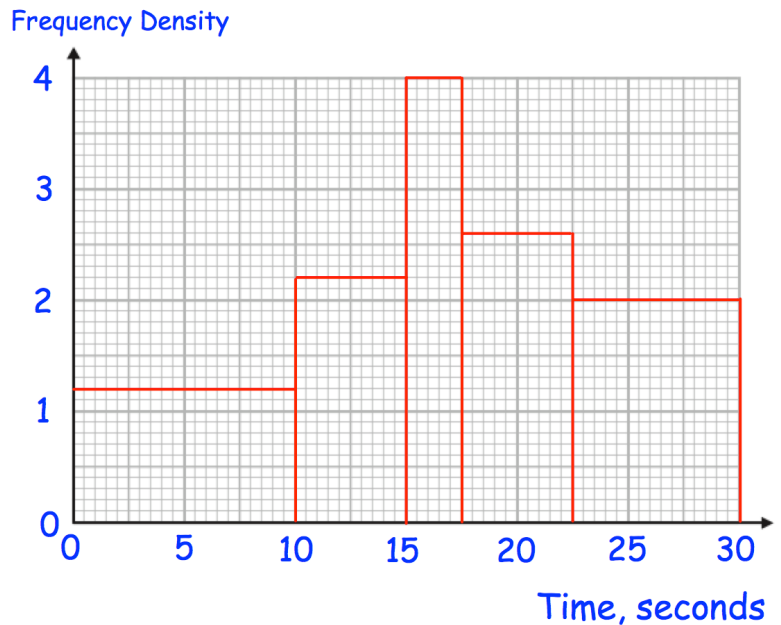
Complete the frequency table.

Salary, £	Frequency
$0 < s \le 20000$	
$20000 < s \le 30000$	
$30000 < s \le 35000$	
$35000 < s \le 40000$	
$40000 < s \le 60000$	

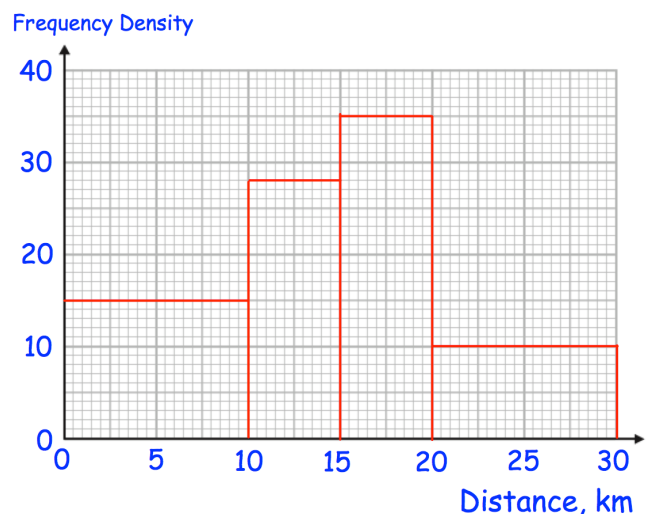Question 4:   The histogram shows information about ages of the people who live in a village.

Complete the frequency table.

Time, seconds	Frequency
0 < t ≤ 10	
10 < t ≤ 15	
15 < t ≤ 17.5	
17.5 < t ≤ 22.5	
22.5 < t ≤ 30	

Question 5:   The histogram shows information about distances students live from a college.

(a) How many students attend the college?

(b) How many students live less than 10km from the college?

(c) How many students live between 15km and 20km from the college?

(d) Estimate how many students live more than 25km from the college.

(e) Estimate how many students live less than 5km from the college.

(f) Estimate how many students live between 5km and 12.5km from the college.

(g) Estimate how many students live between 12.5km and 17.5km from the college.

(h) Estimate how many students live between 10km and 14km from the college.

(i) Estimate how many students live between 8km and 16km from the college

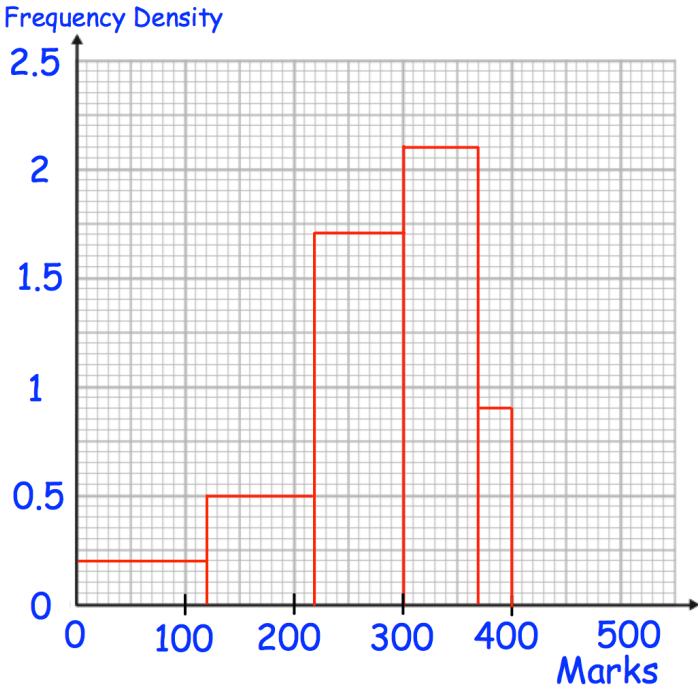(j) Estimate how many students live further than 16km from the college.

Apply

Question 1:   An A-level course is marked out of 400 marks.
A teacher has created this histogram to represent the students' results in his college over the past 10 years.
The table shows the marks needed for each grade.

Work out an estimate of the number of students who achieved each grade.

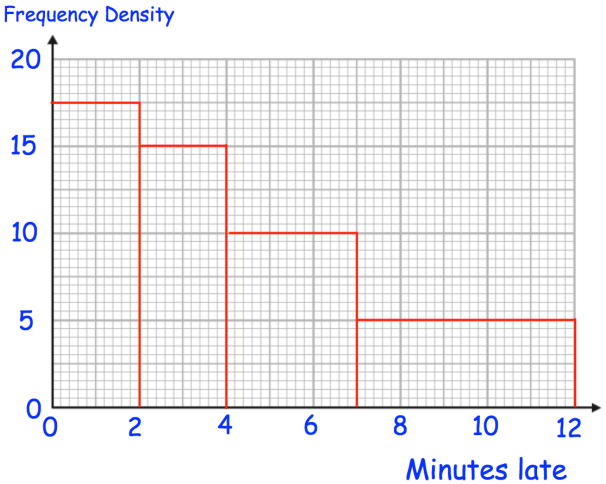| Grade	Marks needed
A*	360
A	320
B	280
C	240
D	200
E	160
U	Below 160

Question 2:   There are road works in Antrim, so all the buses this week were late.
The histogram shows information about all the buses.

(a)   Estimate what fraction of buses were less than 3 minutes late.

The bus company offers a full refund if the bus is more than 10 minutes late.

(b)   Estimate what percentage of passengers will receive a full refund.
Give your answer to two decimal places.

Question 3: 260 people sit a driving theory test.
Their results are shown in this histogram.

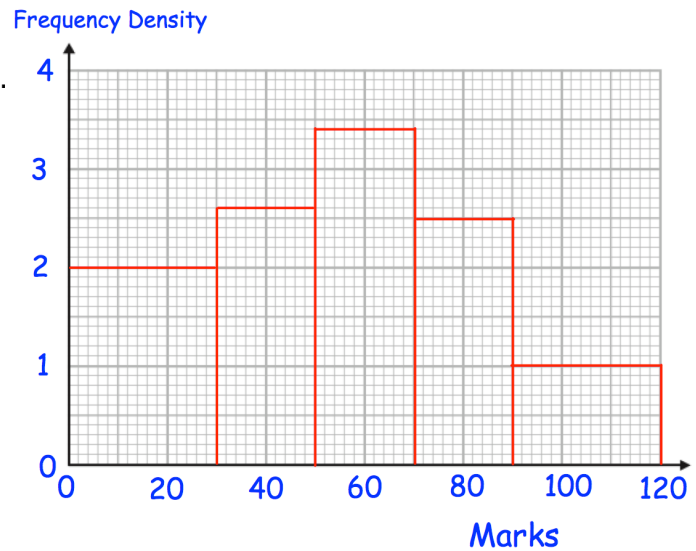10% of the people scored less than x marks.

(a) Find x.

5% of people scored more than y marks.
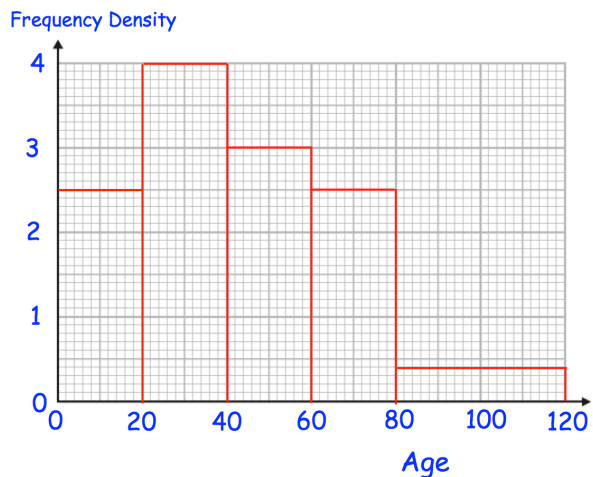
(b) Find y

70% of people scored less than z marks.

(c) Find z

Question 4: The ages of the residents of a village are represented in this histogram

(a) How many people live in the village?
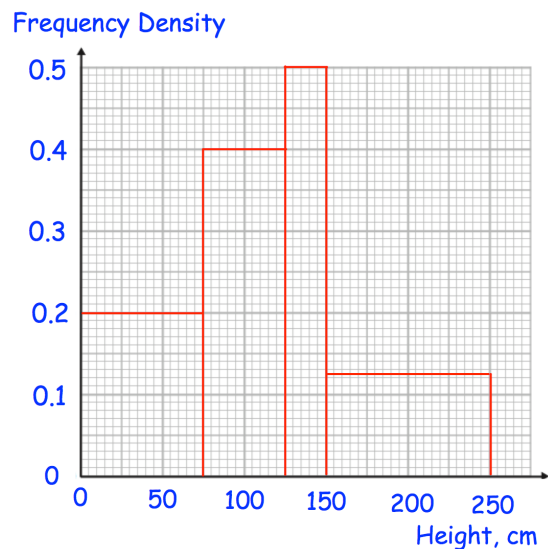
(b) Calculate an estimate of the mean age

Question 5: The heights of some sunflowers are represented in the histogram.

(a) Find an estimate of the median

(b) Find an estimate of the lower quartile

(c) Find an estimate of the upper quartile

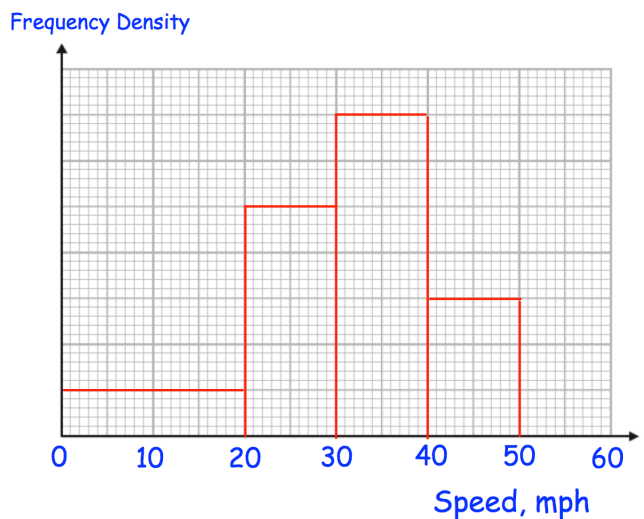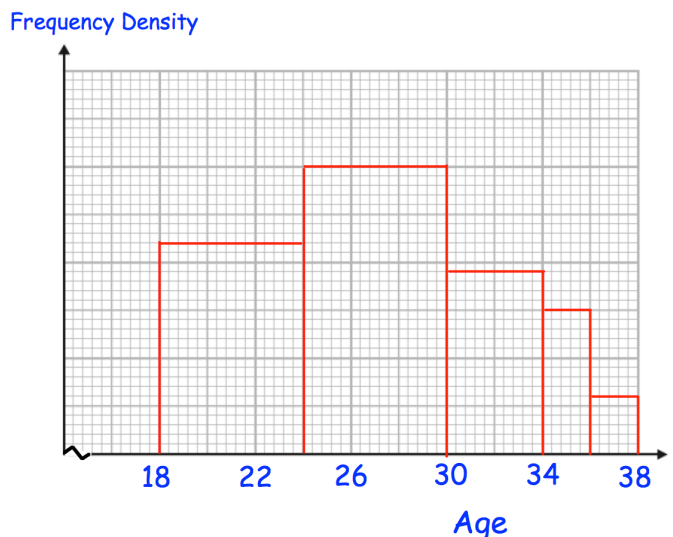(d) Find an estimate of the interquartile range

Question 6: The histogram shows the speed, in miles per hour, of cars on a road over 1 hour. 24 cars travelled faster than 40mph.

(a) How many cars travelled slower than 20mph?

(b) How many cars travelled between 20mph and 40mph?

(c) Estimate how many cars travelled between 15mph and 35mph.
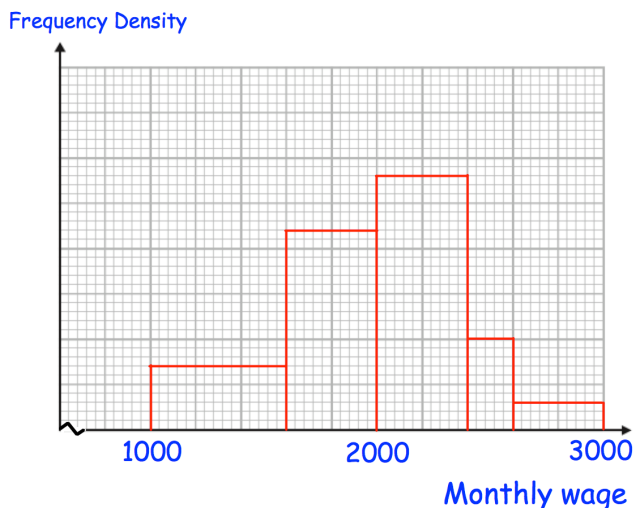

Frequency Density

Speed, mph

Question 7: The histogram below shows the ages of rugby players. There are 768 players that are under 26 years old.

Work out an estimate of how many players are over 32.

Frequency Density

Age

Question 8: The histogram below shows the monthly salaries of employees. There are 216 people who have a monthly salary of between £1800 and £2100.

Work out an estimate of how many employees have a salary of between £2300 and £2900

Frequency Density

Monthly wage

Answers

✓ ✗

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