



ACHIEVE ACADEMY

GCSE Maths — Higher Tier

Histograms · Practice Booklet

NAME: _____

CLASS: _____

DATE: _____

☐ Developing

☒ Secure

☐ Greater Depth

Answer every question in the working space provided. Method marks are available for correct working even if the final answer is wrong. Check the time allowed with your tutor before you start.

Histograms

Total marks available: 88

Histograms

Q1

[2 marks]

The table shows information about the masses of some apples. Complete the frequency density column.

Mass (m grams)	Frequency	Frequency density
$60 < m \leq 70$	24	
$70 < m \leq 85$	51	
$85 < m \leq 115$	108	
$115 < m \leq 125$	44	

Q2

[2 marks]

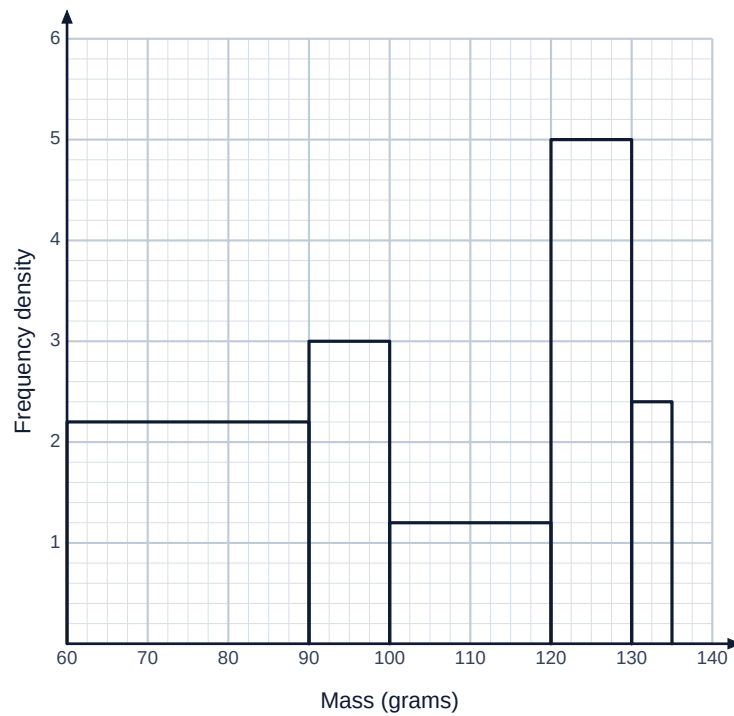
The table shows information about the ages of some visitors to a museum. Complete the frequency density column.

Age (a years)	Frequency	Frequency density
$10 < a \leq 40$	132	
$40 < a \leq 45$	22	
$45 < a \leq 55$	52	
$55 < a \leq 75$	100	

Q3

[2 marks]

The histogram shows information about the masses of some apples. Work out the number of apples in the class $90 < m \leq 100$.



Q4

[2 marks]

The table shows information about the distances some people travel to work. Complete the frequency density column.

Distance (d km)	Frequency	Frequency density
$5 < d \leq 25$	68	
$25 < d \leq 30$	25	
$30 < d \leq 40$	28	
$40 < d \leq 60$	72	

Q5

[2 marks]

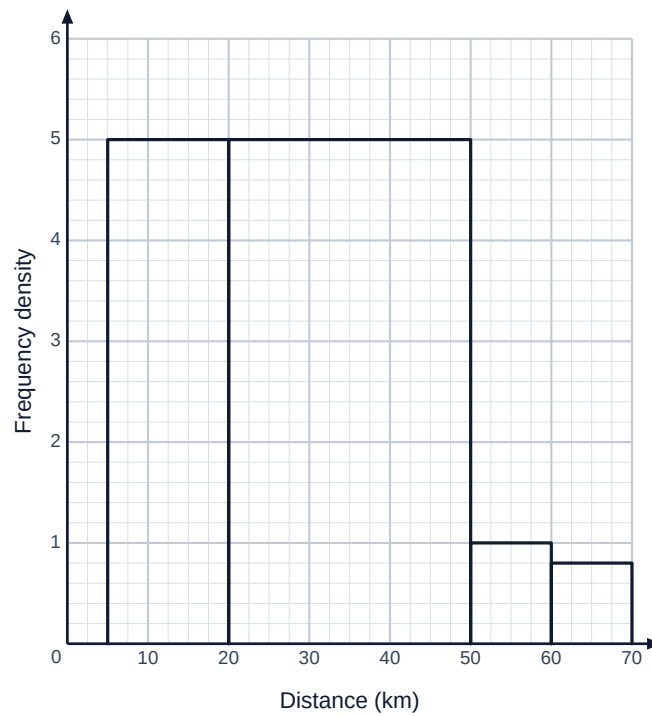
The table shows information about the distances some people travel to work. Complete the frequency density column.

Distance (d km)	Frequency	Frequency density
$0 < d \leq 30$	18	
$30 < d \leq 60$	24	
$60 < d \leq 65$	26	
$65 < d \leq 70$	4	

Q6

[2 marks]

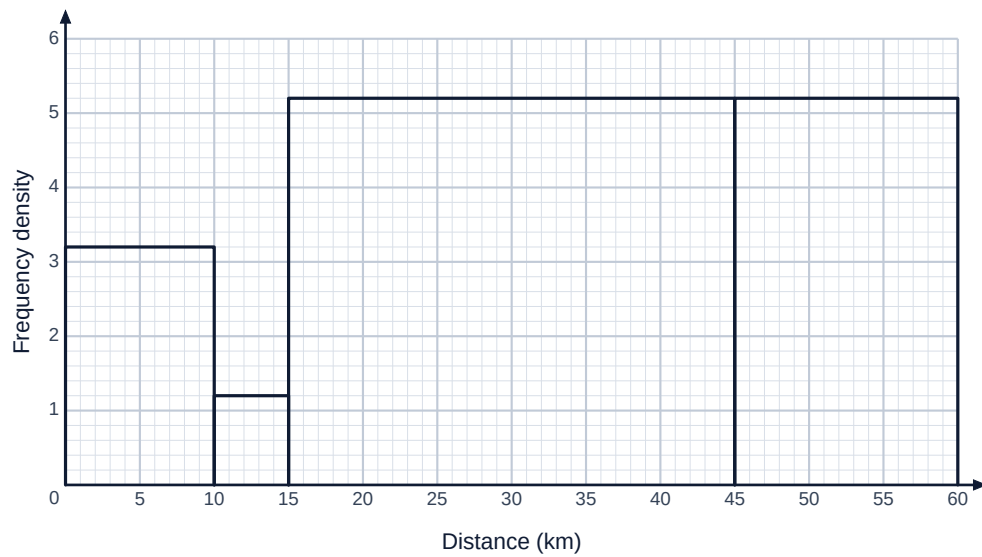
The histogram shows information about the distances some people travel to work. Work out the number of people in the class $20 < d \leq 50$.



Q7

[2 marks]

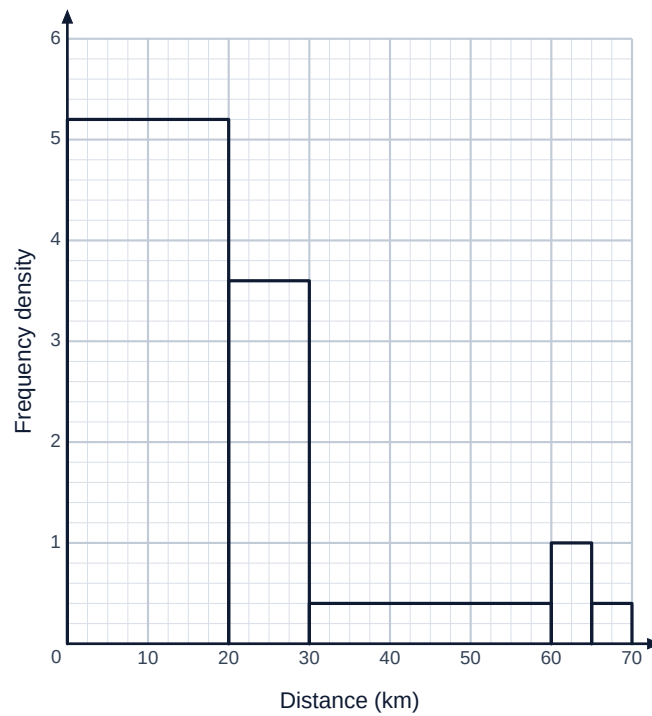
The histogram shows information about the distances some people travel to work. Work out the number of people in the class $10 < d \leq 15$.



Q8

[2 marks]

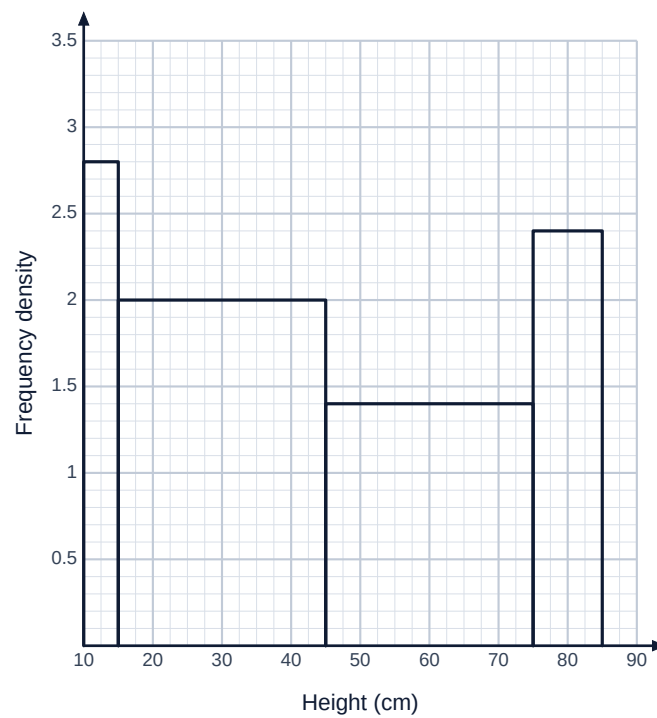
The histogram shows information about the distances some people travel to work. Work out the number of people in the class $20 < d \leq 30$.



Q9

[2 marks]

The histogram shows information about the heights of some plants. Work out the number of plants in the class $75 < h \leq 85$.

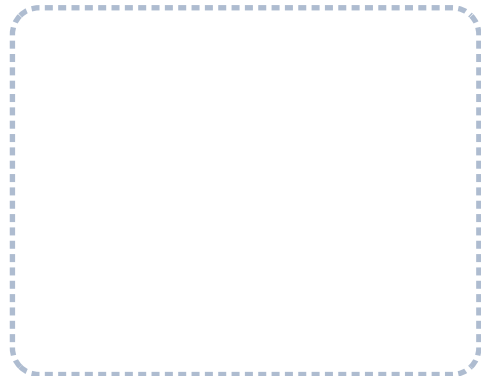


Q10

[2 marks]

The table shows information about the times some students spent on homework. Complete the frequency density column.

Time (t minutes)	Frequency	Frequency density
$0 < t \leq 15$	21	
$15 < t \leq 30$	75	
$30 < t \leq 35$	7	
$35 < t \leq 45$	26	
$45 < t \leq 50$	18	

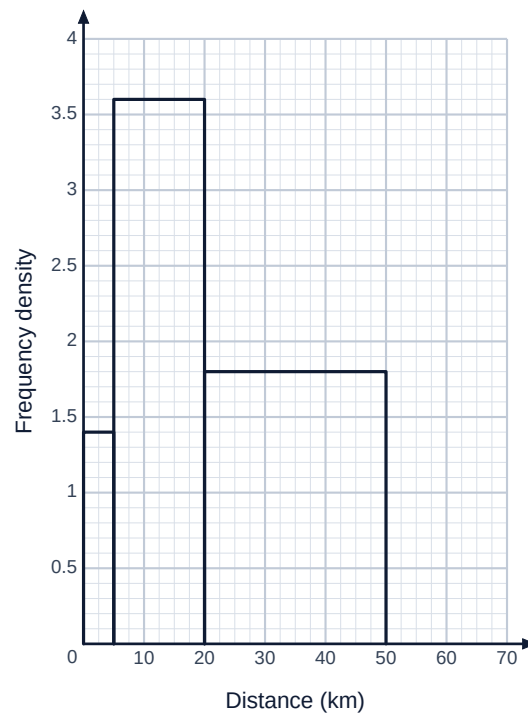


The table and the histogram show information about the distances some people travel to work.

(a) Use the histogram to complete the table.

(b) Use the table to complete the histogram.

Distance (d km)	Frequency
$0 < d \leq 5$	
$5 < d \leq 20$	54
$20 < d \leq 50$	
$50 < d \leq 65$	54
$65 < d \leq 70$	16

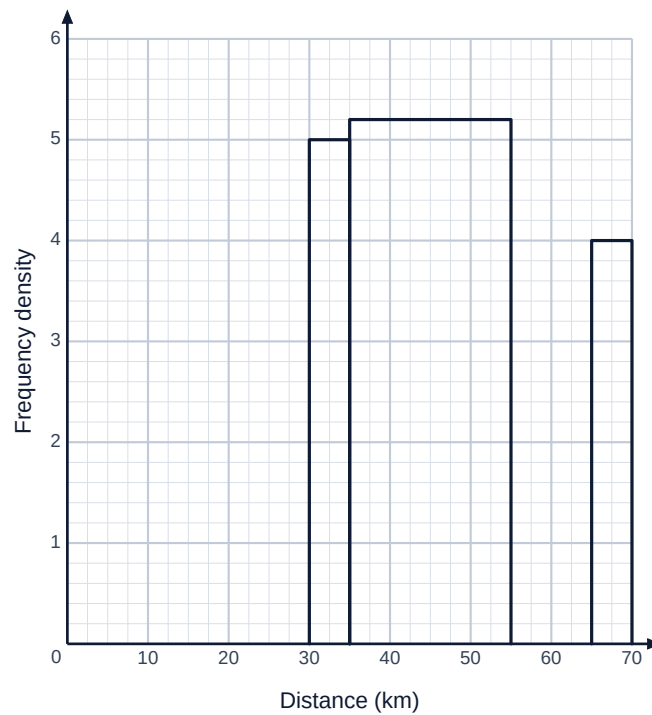


The table and the histogram show information about the distances some people travel to work.

(a) Use the histogram to complete the table.

(b) Use the table to complete the histogram.

Distance (d km)	Frequency
$0 < d \leq 30$	72
$30 < d \leq 35$	
$35 < d \leq 55$	104
$55 < d \leq 65$	34
$65 < d \leq 70$	

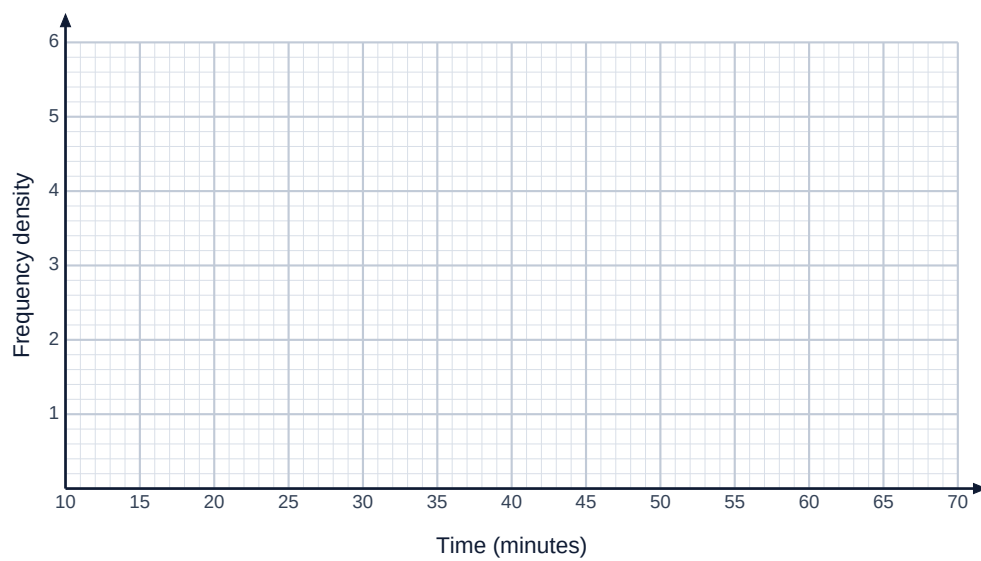


Q13

[3 marks]

The table shows information about the times some students spent on homework. Draw a histogram to show this information. (You may use the extra column.)

Time (t minutes)	Frequency	Frequency density
$10 < t \leq 25$	66	
$25 < t \leq 55$	150	
$55 < t \leq 65$	22	
$65 < t \leq 70$	8	

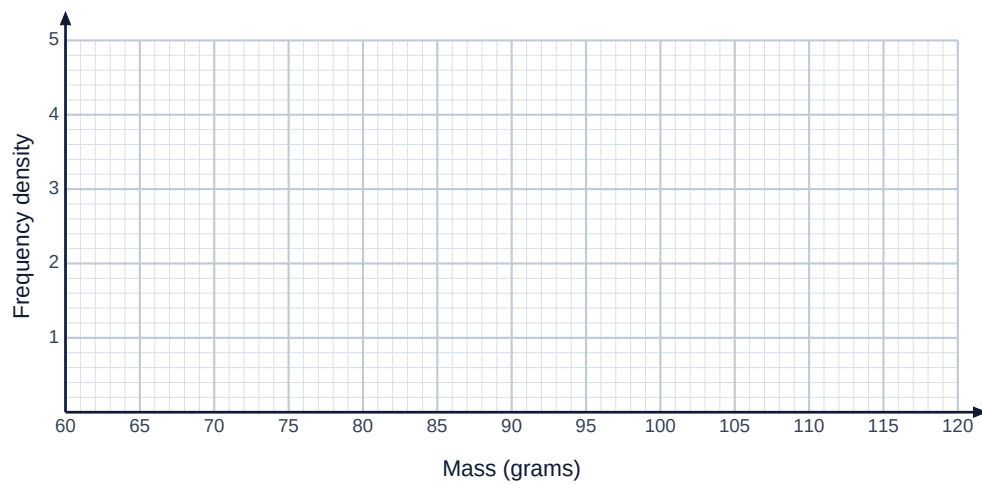


Q14

[3 marks]

The table shows information about the masses of some apples. Draw a histogram to show this information. (You may use the extra column.)

Mass (m grams)	Frequency	Frequency density
$60 < m \leq 70$	46	
$70 < m \leq 90$	56	
$90 < m \leq 110$	36	
$110 < m \leq 120$	8	

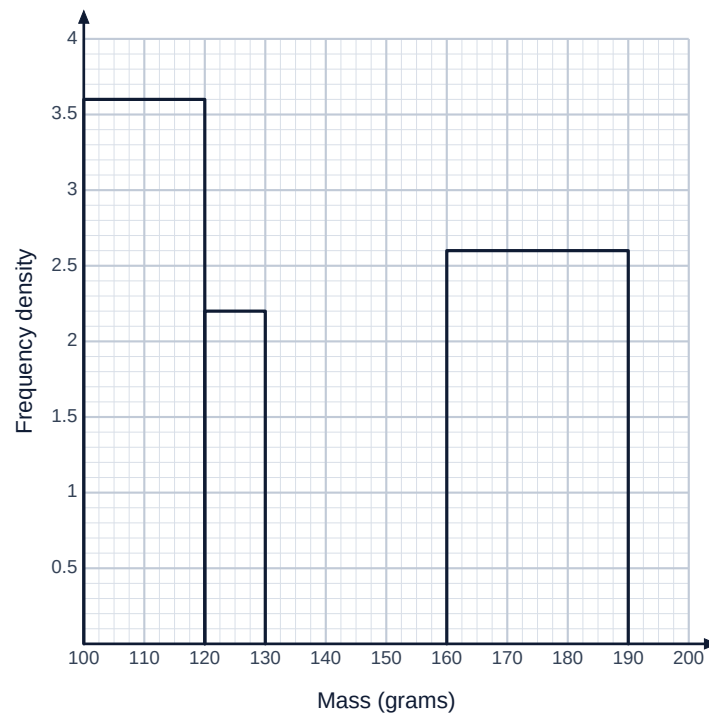


The table and the histogram show information about the masses of some apples.

(a) Use the histogram to complete the table.

(b) Use the table to complete the histogram.

Mass (m grams)	Frequency
$100 < m \leq 120$	
$120 < m \leq 130$	22
$130 < m \leq 160$	78
$160 < m \leq 190$	
$190 < m \leq 195$	12

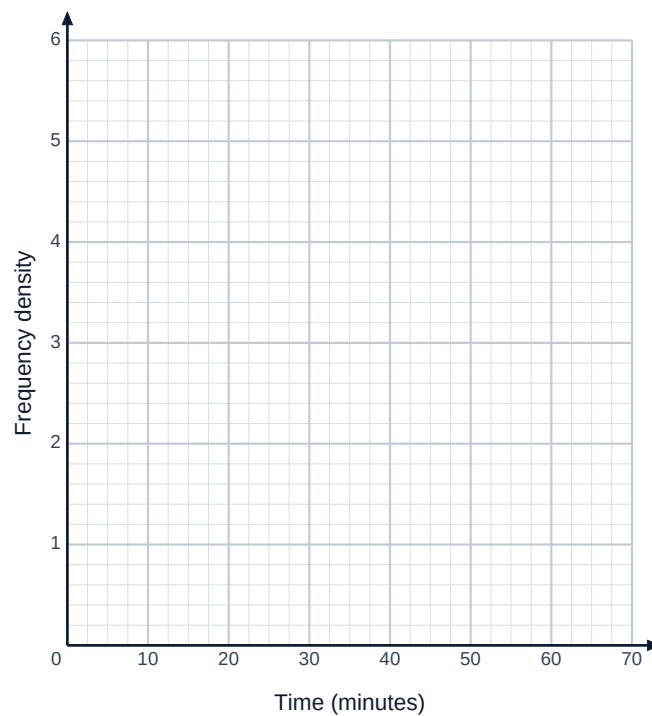


Q16

[3 marks]

The table shows information about the times some students spent on homework. Draw a histogram to show this information. (You may use the extra column.)

Time (t minutes)	Frequency	Frequency density
$0 < t \leq 10$	18	
$10 < t \leq 15$	18	
$15 < t \leq 45$	54	
$45 < t \leq 65$	96	

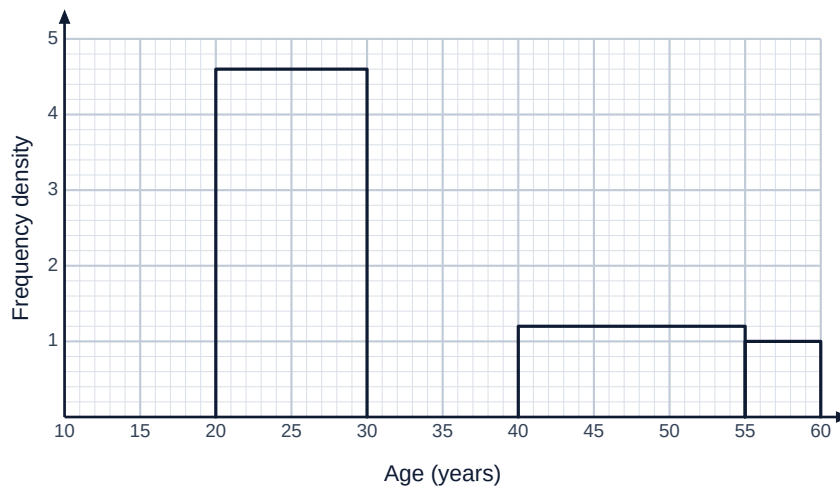


The table and the histogram show information about the ages of some visitors to a museum.

(a) Use the histogram to complete the table.

(b) Use the table to complete the histogram.

Age (a years)	Frequency
$10 < a \leq 20$	24
$20 < a \leq 30$	46
$30 < a \leq 40$	20
$40 < a \leq 55$	
$55 < a \leq 60$	

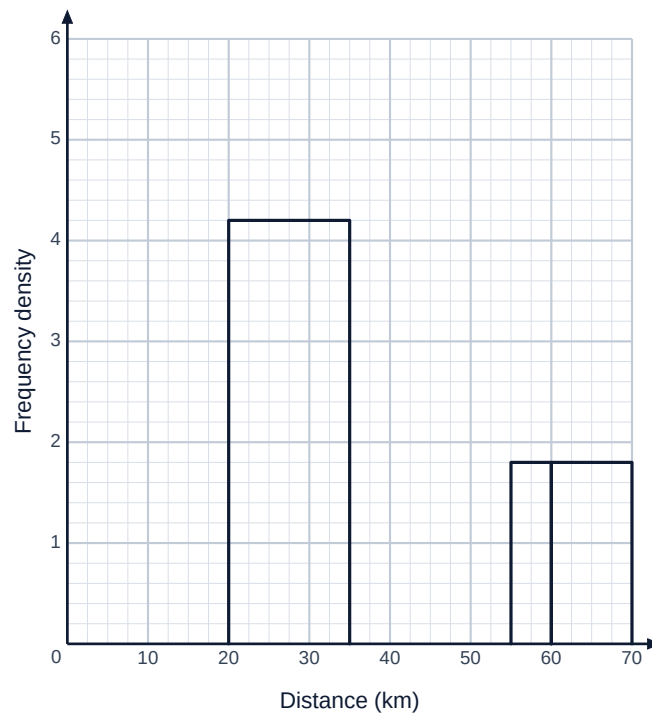


The table and the histogram show information about the distances some people travel to work.

(a) Use the histogram to complete the table.

(b) Use the table to complete the histogram.

Distance (d km)	Frequency
$5 < d \leq 20$	42
$20 < d \leq 35$	
$35 < d \leq 55$	100
$55 < d \leq 60$	9
$60 < d \leq 70$	

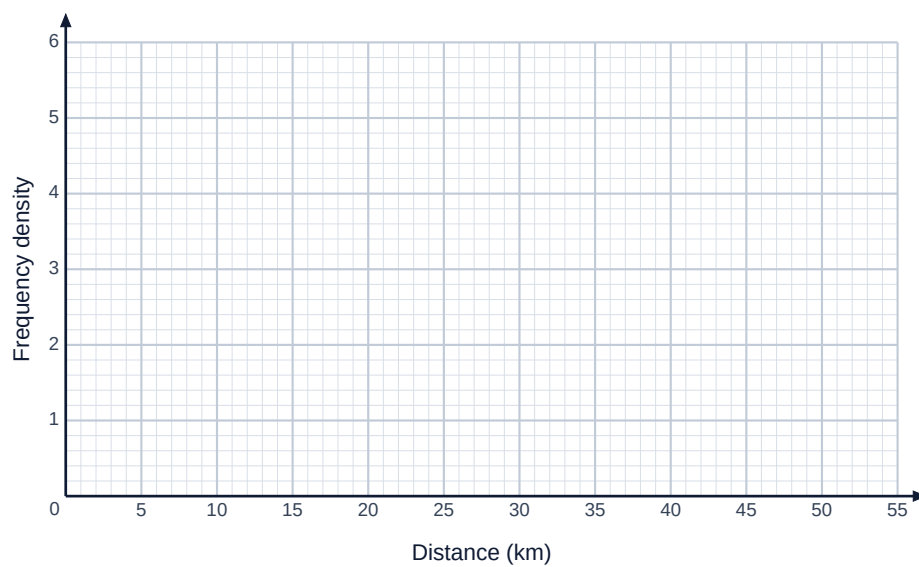


Q19

[3 marks]

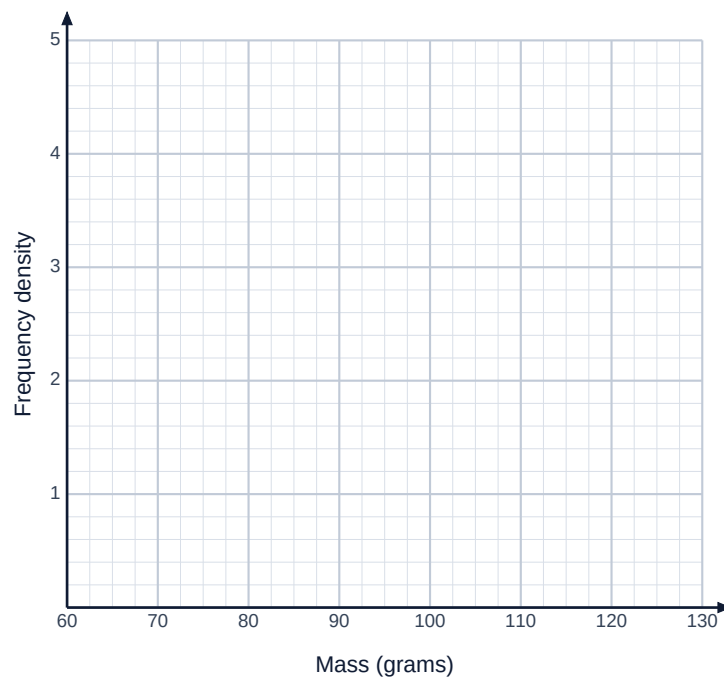
The table shows information about the distances some people travel to work. Draw a histogram to show this information. (You may use the extra column.)

Distance (d km)	Frequency	Frequency density
$0 < d \leq 5$	25	
$5 < d \leq 35$	138	
$35 < d \leq 45$	26	
$45 < d \leq 55$	14	



The table shows information about the masses of some apples. Draw a histogram to show this information. (You may use the extra column.)

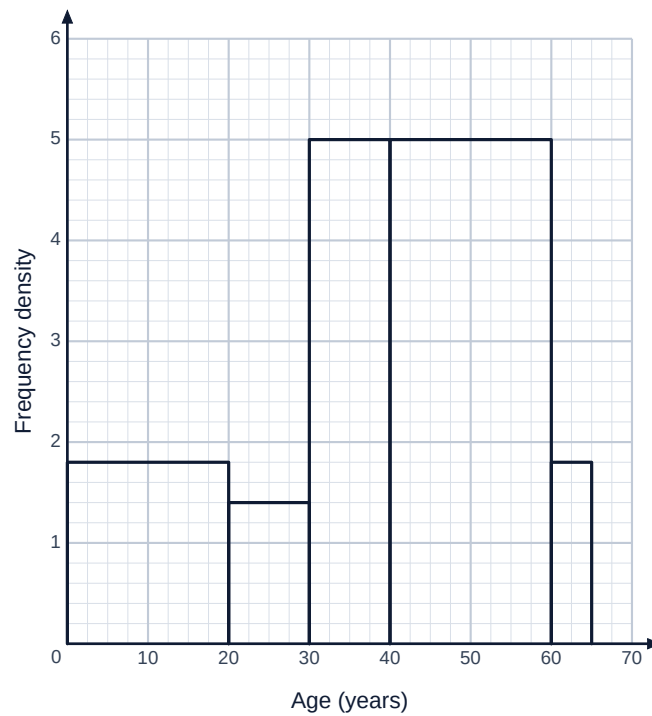
Mass (m grams)	Frequency	Frequency density
$60 < m \leq 75$	27	
$75 < m \leq 90$	51	
$90 < m \leq 110$	80	
$110 < m \leq 130$	72	



Q21

[3 marks]

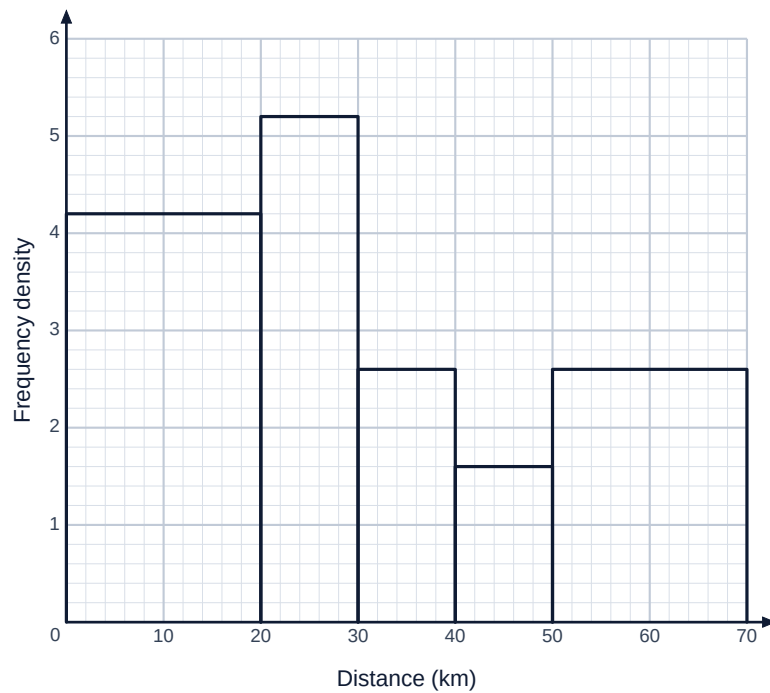
The histogram shows information about the ages of some visitors to a museum. Which class contains more visitors, $60 < a \leq 65$ or $20 < a \leq 30$? Show how you decide.



Q22

[3 marks]

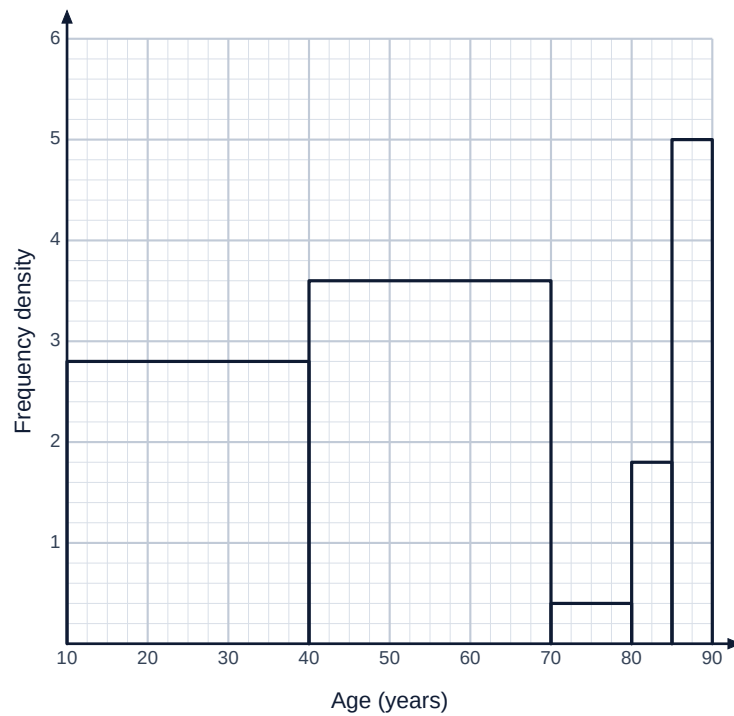
The histogram shows information about the distances some people travel to work. Work out an estimate for the number of people with $35 < d < 45$.



Q23

[3 marks]

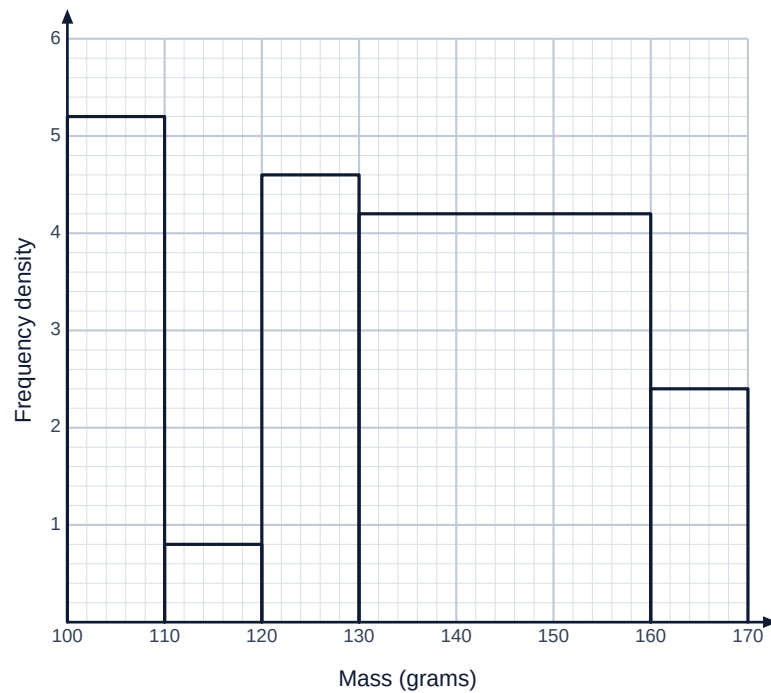
The histogram shows information about the ages of some visitors to a museum. Which class contains more visitors, $85 < a \leq 90$ or $40 < a \leq 70$? Show how you decide.



Q24

[3 marks]

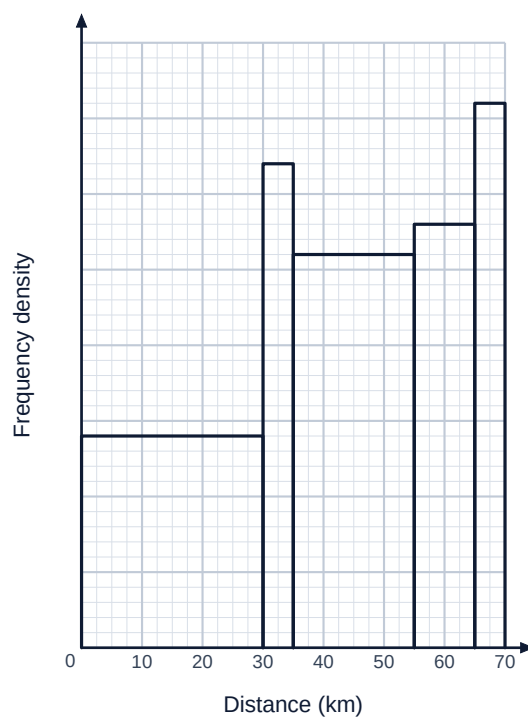
The histogram shows information about the masses of some apples. Work out an estimate for the number of apples with $115 < m < 165$.



Q25

[4 marks]

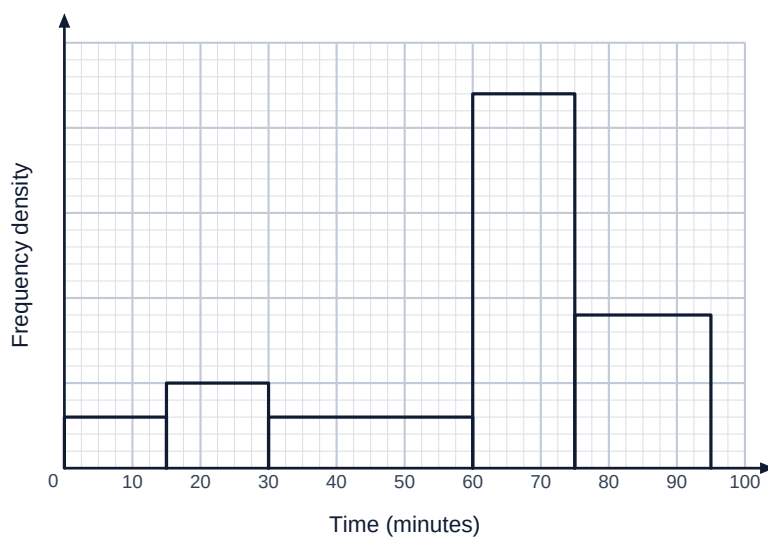
The histogram shows information about the distances some people travel to work. There are 42 people in the class $0 < d \leq 30$. Work out the total number of people.



Q26

[4 marks]

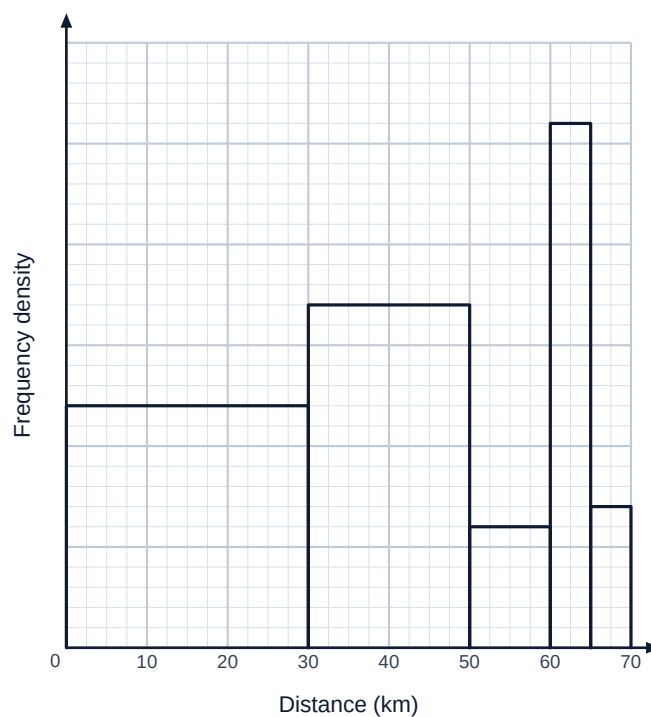
The histogram shows information about the times some students spent on homework. There are 15 students in the class $15 < t \leq 30$. Work out the total number of students.



Q27

[4 marks]

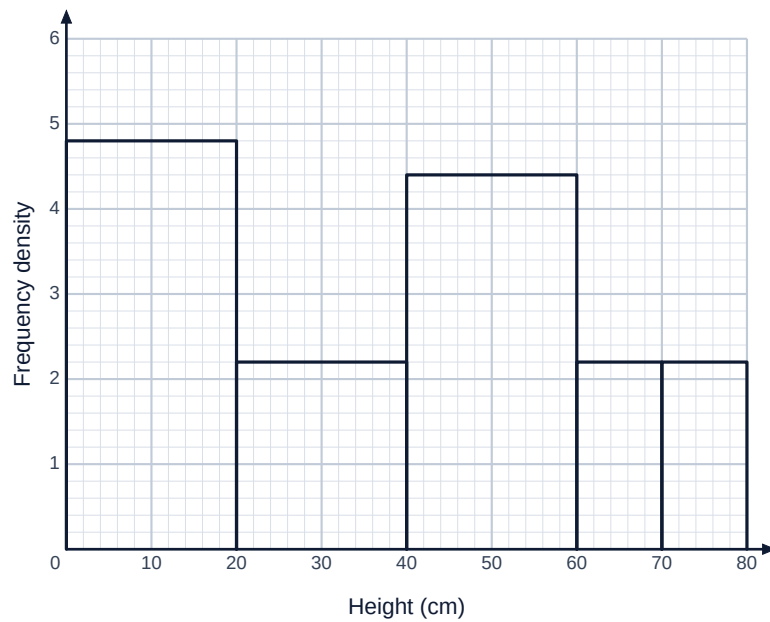
The histogram shows information about the distances some people travel to work. There are 68 people in the class $30 < d \leq 50$. Work out the total number of people.



Q28

[3 marks]

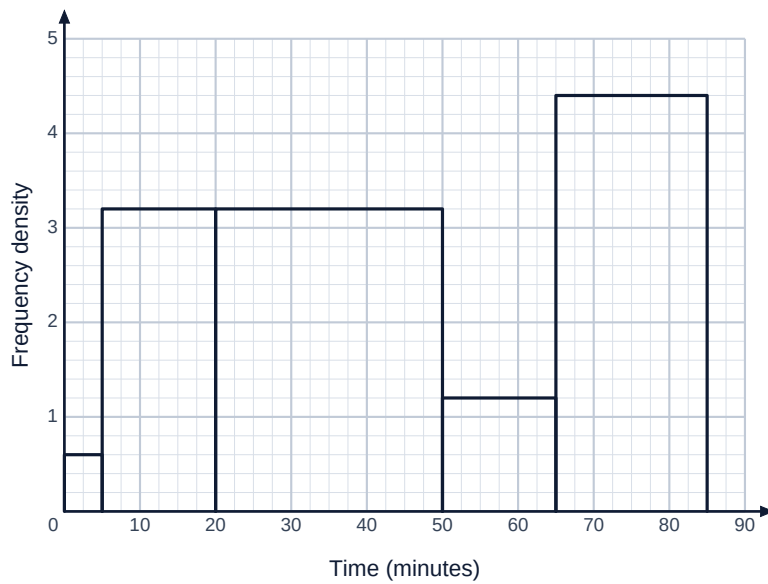
The histogram shows information about the heights of some plants. Work out an estimate for the number of plants with $25 < h < 65$.



Q29

[3 marks]

The histogram shows information about the times some students spent on homework. Which class contains more students, $65 < t \leq 85$ or $20 < t \leq 50$? Show how you decide.



Q30

[3 marks]

The histogram shows information about the times some students spent on homework. Work out an estimate for the number of students with $45 < t < 100$.

