teachably

Name _____

Date _____

GCSE Mathematics

H

Histograms

Higher | Grades 7-9

Total Marks	Time	Questions
56	56 min	20

Instructions:

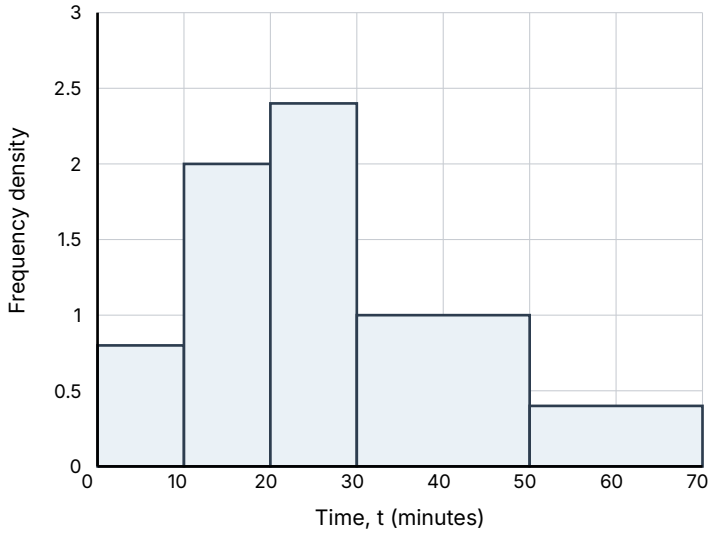
- Do not use a calculator when you see: 
- Answer all questions in the spaces provided.
- Show all your working - marks are awarded for method as well as final answers.
- Cross through any work you do not want to be marked.
- Check your answers if you have time at the end.

Edexcel-style questions

Q1

Grade 7 Edexcel style

The histogram shows the time taken by 80 people to complete a fun run. 24 people took between 20 and 30 minutes. Calculate the frequency density for this class.



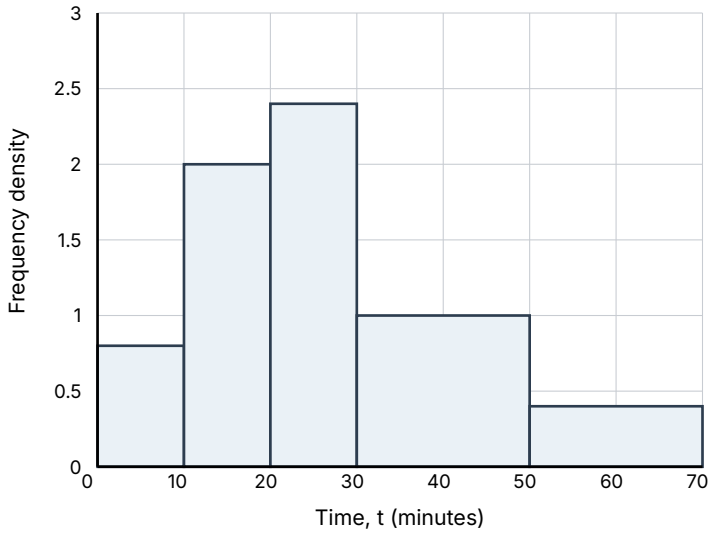
Answer _____

teachably **[2 marks]**

Q2

Grade 7 Edexcel style

The histogram shows the time taken by 80 people to complete a fun run. Use the histogram to find the number of people who took between 30 and 50 minutes.



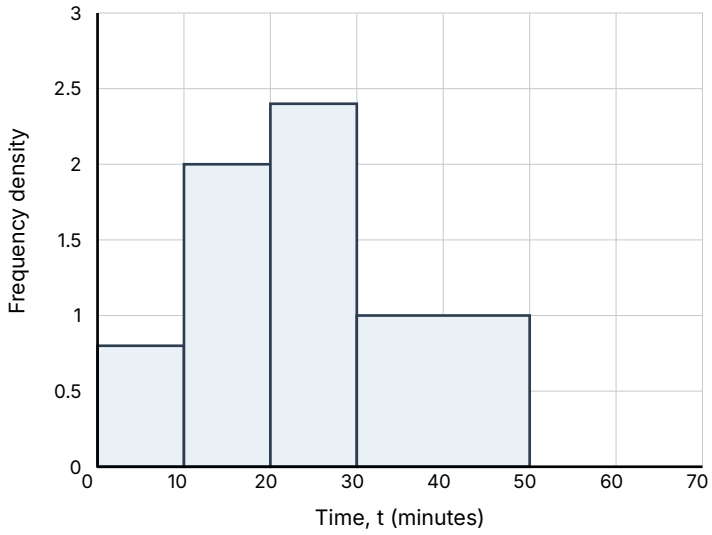
Answer _____

teachably **[2 marks]**

Q3

Grade 8 Edexcel style

The histogram shows the time taken by 80 people to complete a fun run, but the bar for the 50-70 minute class is missing. Find the number of people who took between 50 and 70 minutes.



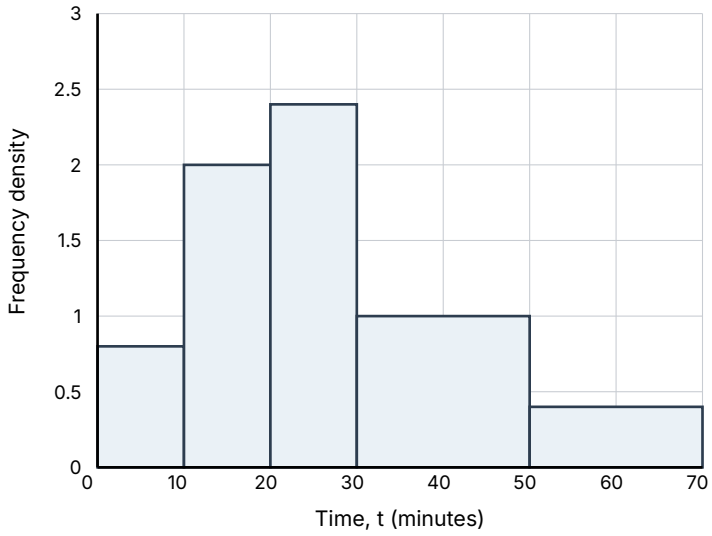
Answer _____

teachably **[3 marks]**

Q4

Grade 8 Edexcel style

The histogram shows the time taken by 80 people to complete a fun run. Assuming the data is spread evenly within each class, estimate the number of people who took between 20 and 25 minutes.



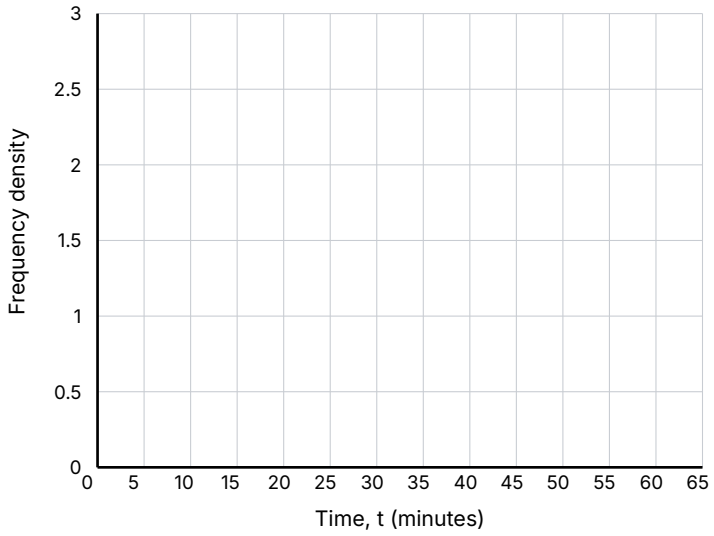
Answer _____

teachably **[2 marks]**

Q5

Grade 9 Edexcel style

A different sample of 75 commuters has journey times grouped as follows: 0-15 minutes: 9 people; 15-25 minutes: 30 people; 25-35 minutes: 24 people; 35-65 minutes: 12 people. Draw a histogram to show this information.



Answer _____

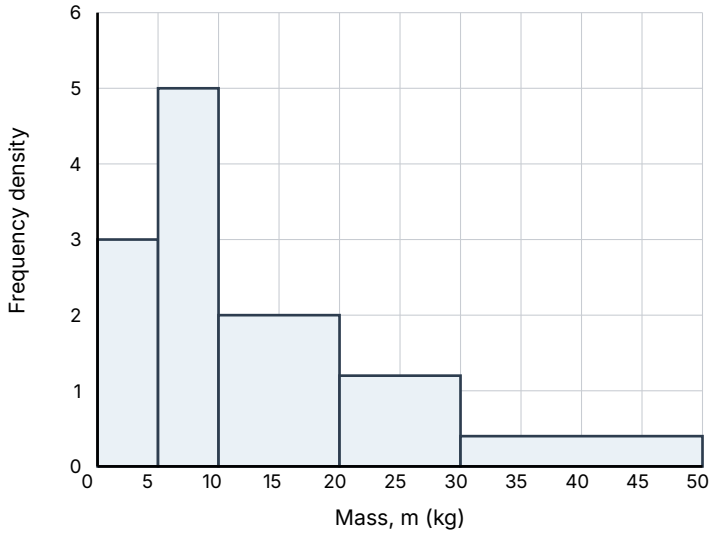
teachably **[5 marks]**

AQA-style questions

Q6

Grade 7 AQA style

The histogram shows the mass of 80 parcels. 20 parcels weighed between 10 and 20 kg. Calculate the frequency density for this class.



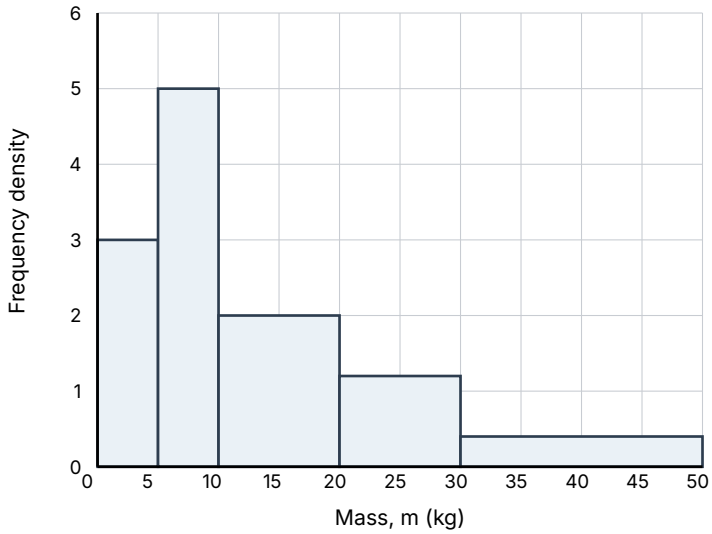
Answer _____

[2 marks]

Q7

Grade 7 AQA style

The histogram shows the mass of 80 parcels. Use the histogram to find the number of parcels with mass between 20 and 30 kg.



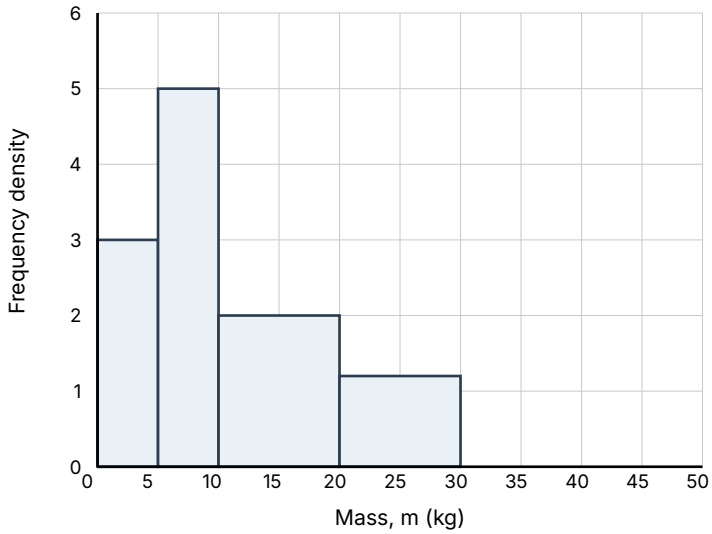
Answer _____

teachably **[2 marks]**

Q8

Grade 8 AQA style

The histogram shows the mass of 80 parcels, but the bar for the 30-50 kg class is missing. Find the number of parcels with mass between 30 and 50 kg.



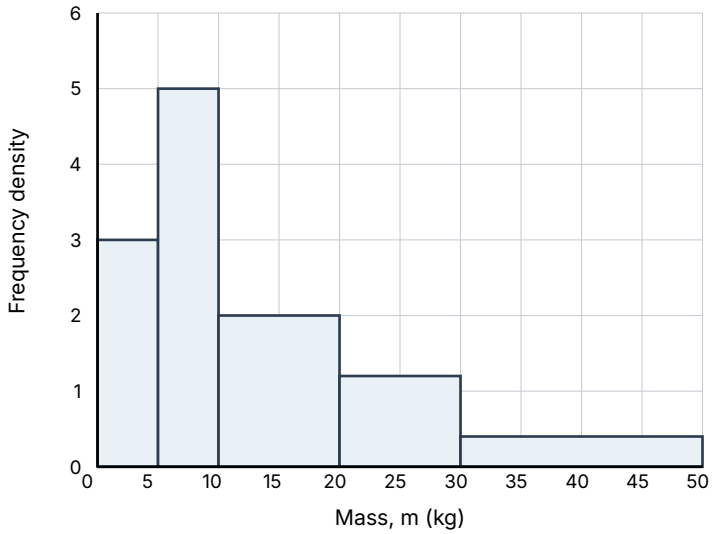
Answer _____

teachably **[3 marks]**

Q9

Grade 8 AQA style

The histogram shows the mass of 80 parcels. Assuming the data is spread evenly within each class, estimate the number of parcels with mass between 10 and 15 kg.



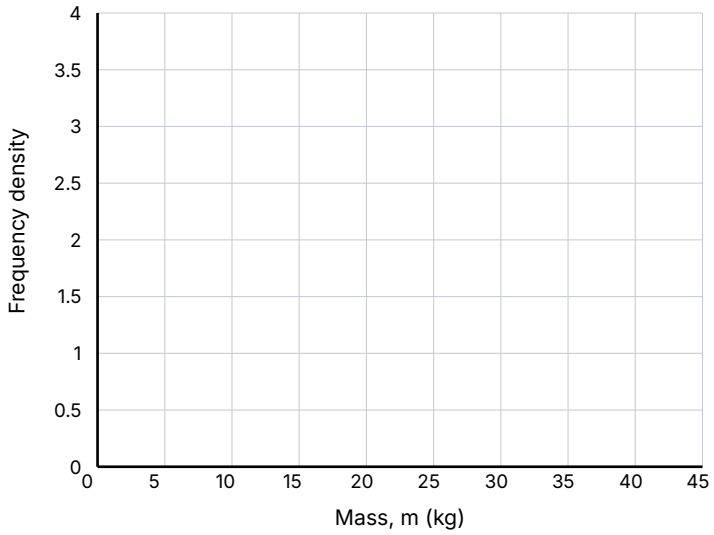
Answer _____

teachably **[2 marks]**

Q10

Grade 9 AQA style

A different sample of 78 parcels has mass grouped as follows: 0-5 kg: 10 parcels; 5-15 kg: 40 parcels; 15-25 kg: 16 parcels; 25-45 kg: 12 parcels. Draw a histogram to show this information.



Answer _____

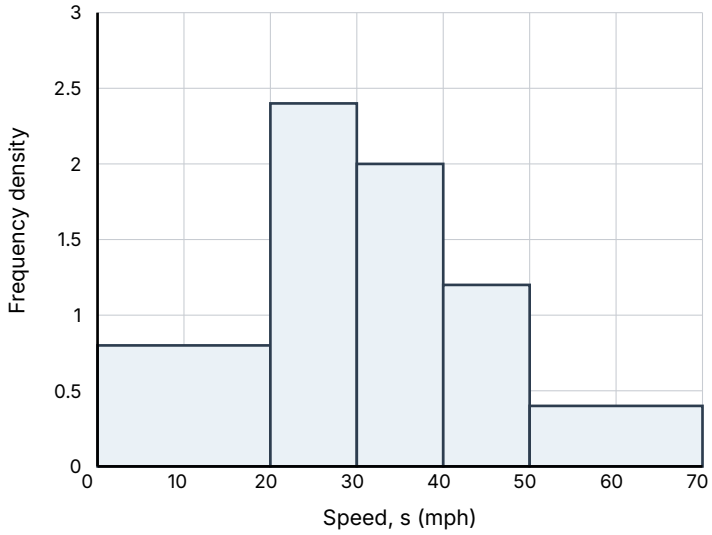
teachably **[5 marks]**

OCR-style questions

Q11

Grade 7 OCR style

The histogram shows the speed of 80 cars. 24 cars had a speed between 20 and 30 mph. Calculate the frequency density for this class.

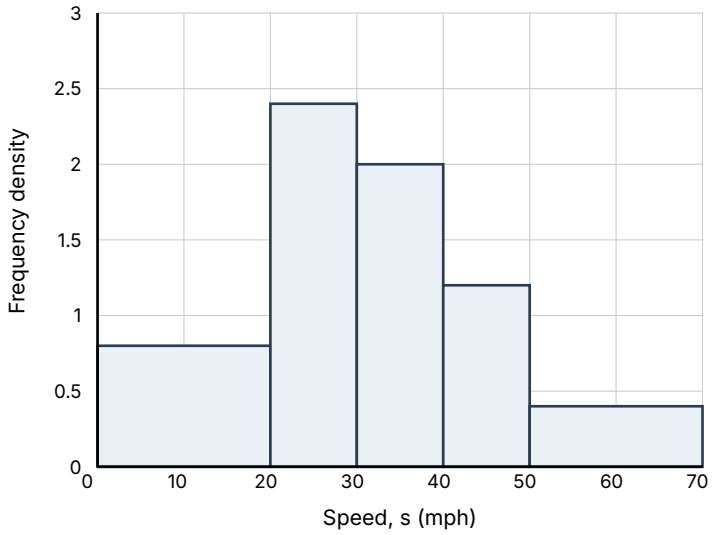


Answer _____

Q12

Grade 7 OCR style

The histogram shows the speed of 80 cars. Use the histogram to find the number of cars with a speed between 40 and 50 mph.



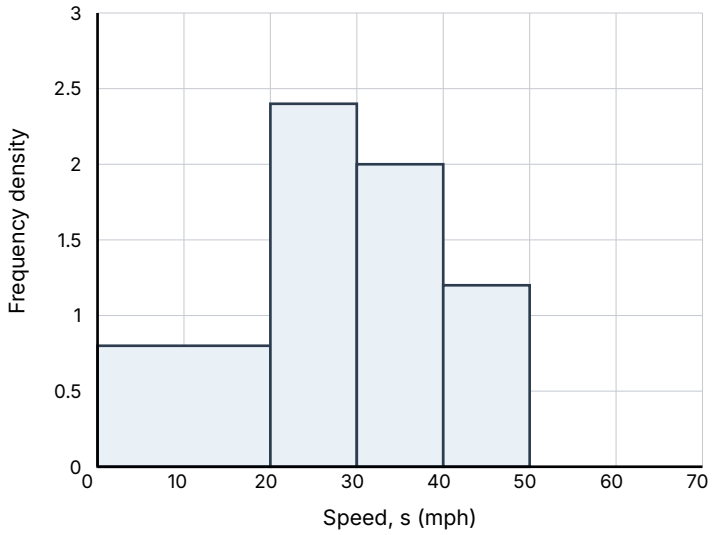
Answer _____

teachably **[2 marks]**

Q13

Grade 8 OCR style

The histogram shows the speed of 80 cars, but the bar for the 50-70 mph class is missing. Find the number of cars with a speed between 50 and 70 mph.



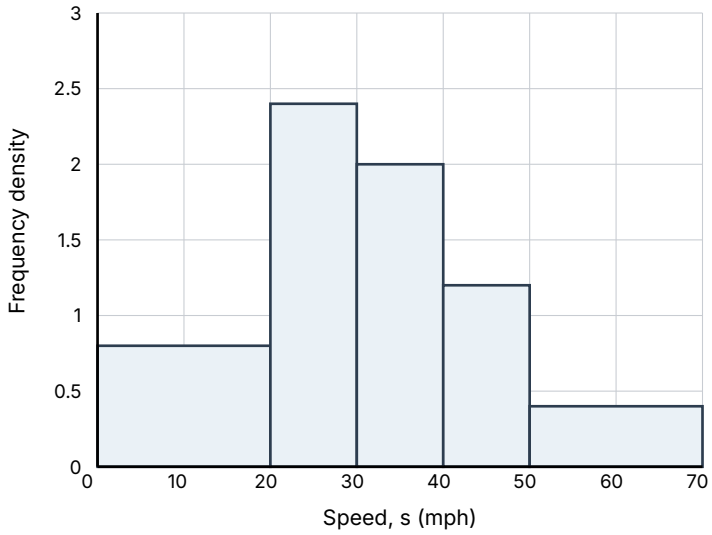
Answer _____

teachably **[3 marks]**

Q14

Grade 8 OCR style

The histogram shows the speed of 80 cars. Assuming the data is spread evenly within each class, estimate the number of cars with a speed between 20 and 25 mph.



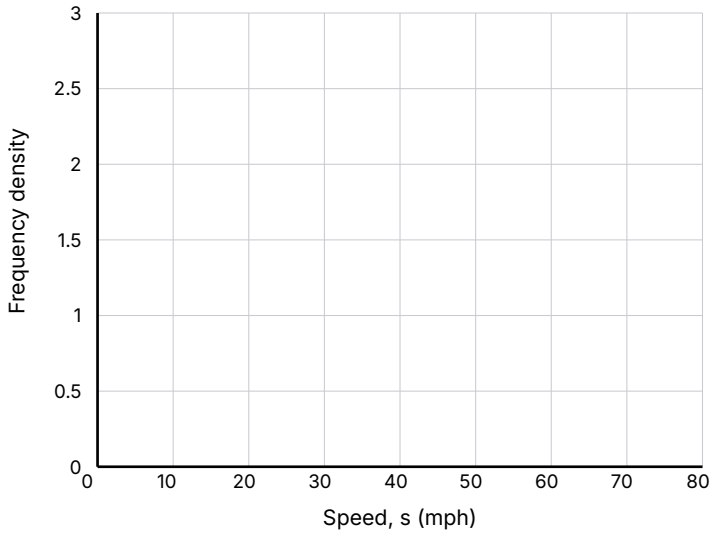
Answer _____

teachably **[2 marks]**

Q15

Grade 9 OCR style

A different sample of 72 cars has speed grouped as follows: 0-30 mph: 12 cars; 30-40 mph: 28 cars; 40-50 mph: 20 cars; 50-80 mph: 12 cars. Draw a histogram to show this information.



Answer _____

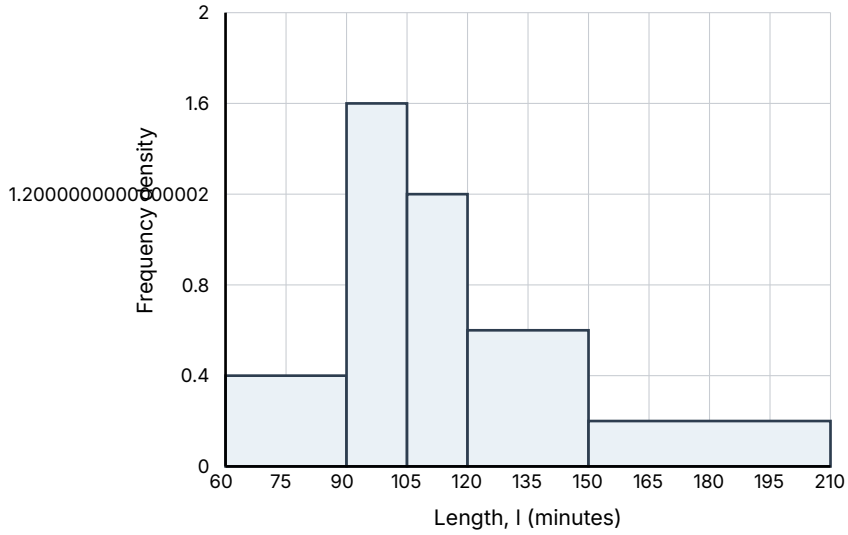
teachably **[5 marks]**

Teachably-style questions

Q16

Grade 7 Teachably style

The histogram shows the length of 84 films. 18 films lasted between 105 and 120 minutes. Calculate the frequency density for this class.



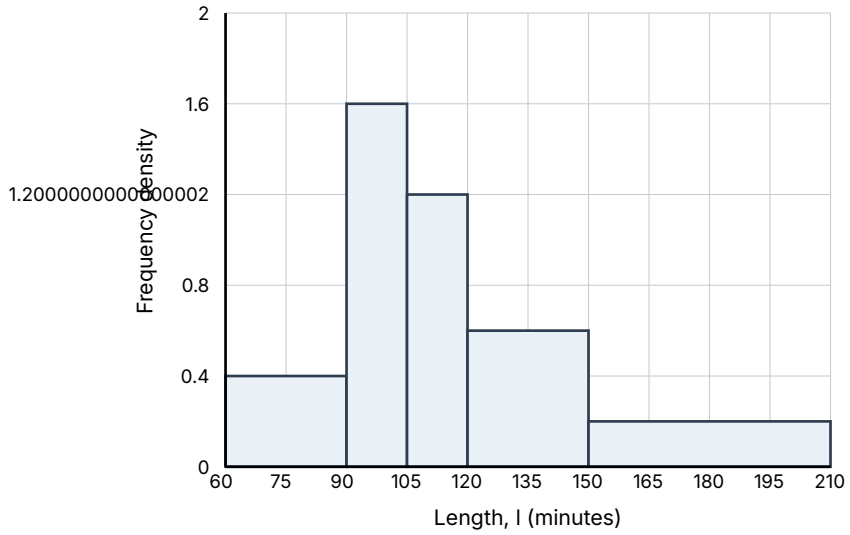
Answer _____

teachably **[2 marks]**

Q17

Grade 7 Teachably style

The histogram shows the length of 84 films. Use the histogram to find the number of films lasting between 120 and 150 minutes.



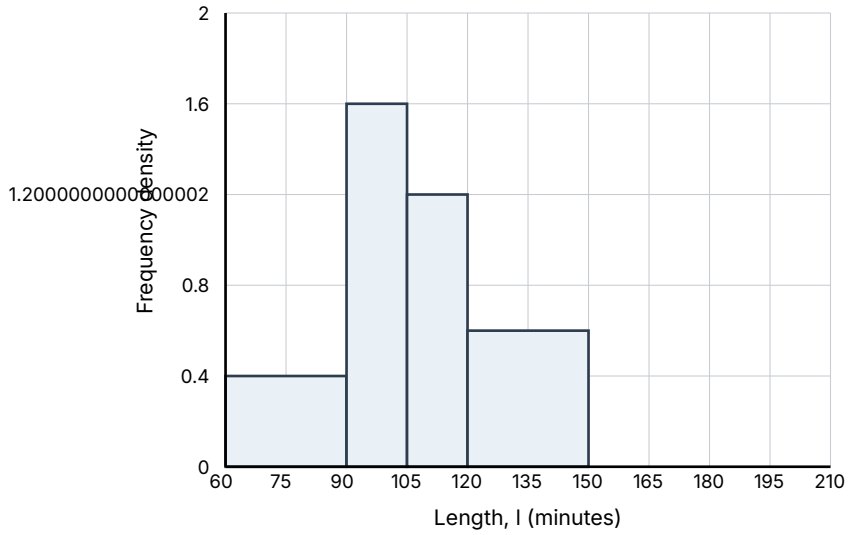
Answer _____

teachably **[2 marks]**

Q18

Grade 8 Teachably style

The histogram shows the length of 84 films, but the bar for the 150-210 minute class is missing. Find the number of films lasting between 150 and 210 minutes.



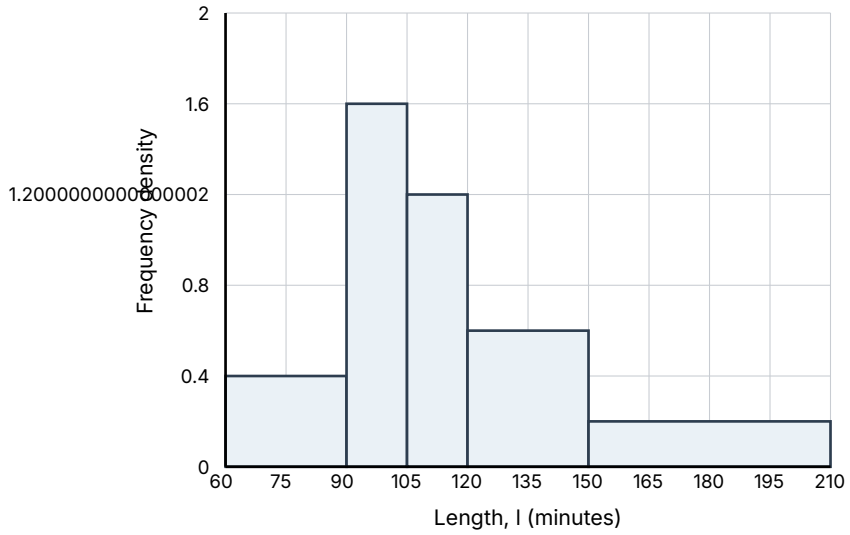
Answer _____

teachably **[3 marks]**

Q19

Grade 8 Teachably style

The histogram shows the length of 84 films. Assuming the data is spread evenly within each class, estimate the number of films lasting between 90 and 95 minutes.



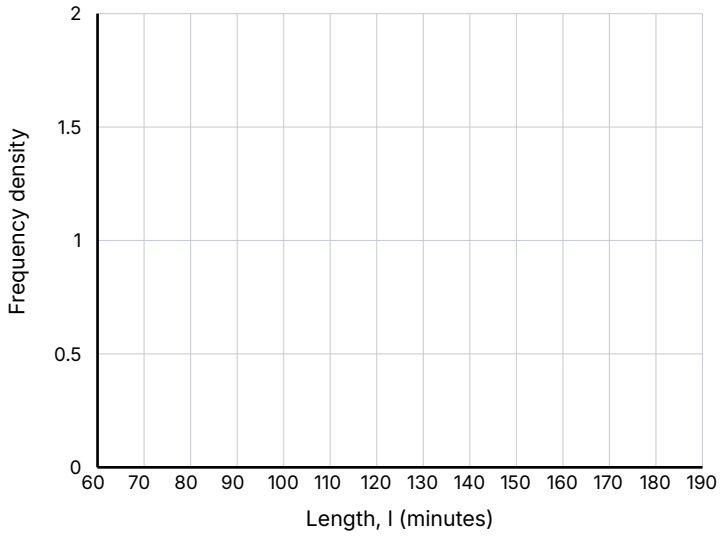
Answer _____

teachably **[2 marks]**

Q20

Grade 9 Teachably style

A different sample of 81 films has length grouped as follows: 60-100 minutes: 12 films; 100-115 minutes: 30 films; 115-130 minutes: 21 films; 130-190 minutes: 18 films. Draw a histogram to show this information.



Answer _____

teachably **[5 marks]**

END OF PAPER