JRA Tutors
Private tuition and small online Study Pods

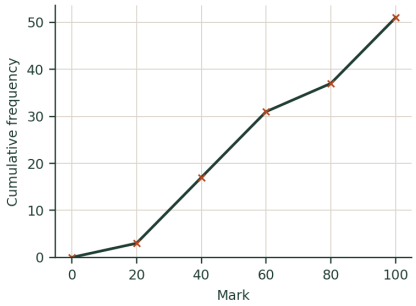
Cumulative Frequency

Grade 6 topic · Higher tier · Edexcel and AQA

How to use this pack
20 questions that get harder as you go. Questions 1–15 (40 marks) build up to the harder Grade 8–9 style questions at the end; aim to complete all 20. Show your working on the lines and write your final answer on the answer line, then mark yourself with the answers at the back. Diagrams are not drawn accurately. Total: 60 marks.

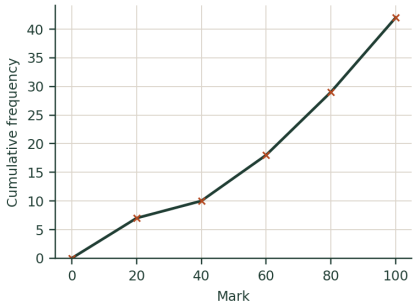
Warm-up

1 The cumulative frequency graph shows the marks of 51 students. How many values are there altogether? **[1 mark]**



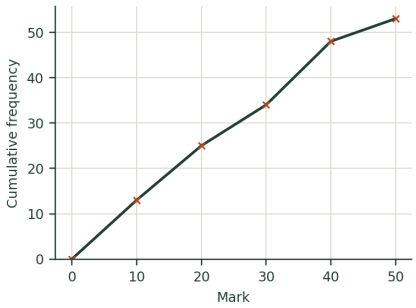
Answer _____

2 The cumulative frequency graph shows the marks of 42 students. How many values are less than 40? **[1 mark]**



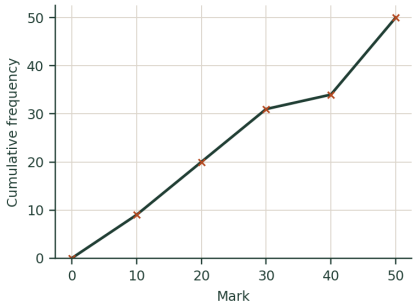
Answer _____

3 The cumulative frequency graph shows the marks of 53 students. How many values are less than 30? **[1 mark]**



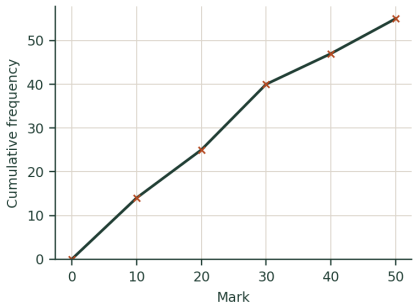
Answer _____

4 The cumulative frequency graph shows the marks of 50 students. How many values are between 10 and 20? **[1 mark]**



Answer _____

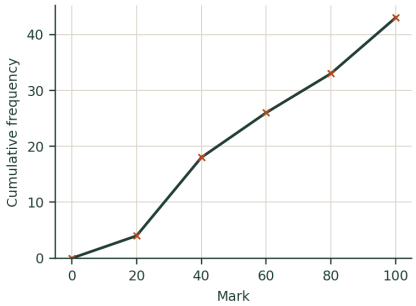
5 The cumulative frequency graph shows the marks of 55 students. How many values are 40 or more? **[1 mark]**



Answer _____

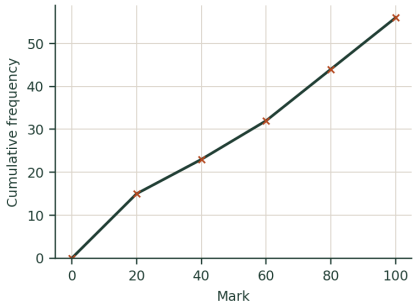
Core

6 The cumulative frequency graph shows the marks of 43 students. Estimate the median. **[3 marks]**



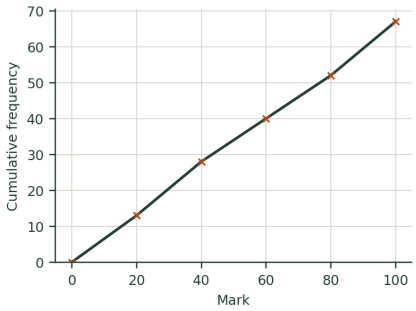
Answer _____

7 The cumulative frequency graph shows the marks of 56 students. Estimate the lower quartile. **[3 marks]**



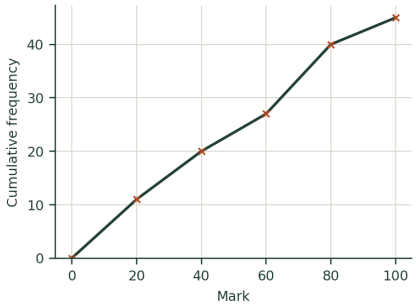
Answer _____

8 The cumulative frequency graph shows the marks of 67 students. Estimate the upper quartile. **[3 marks]**



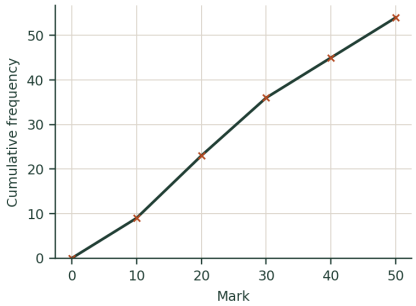
Answer _____

9 The cumulative frequency graph shows the marks of 45 students. Estimate the interquartile range. **[3 marks]**



Answer _____

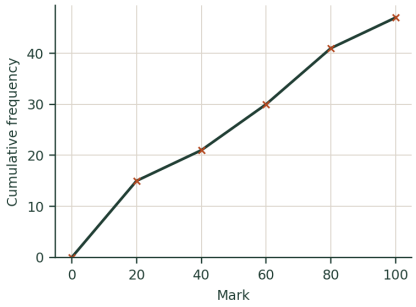
10 The cumulative frequency graph shows the marks of 54 students. Estimate the median (read from the graph). **[3 marks]**



Answer _____

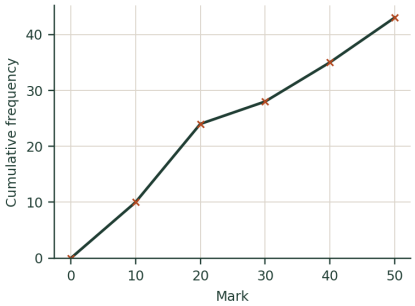
Stretch

11 The cumulative frequency graph shows the marks of 47 students. Estimate the number of values less than 20. **[4 marks]**



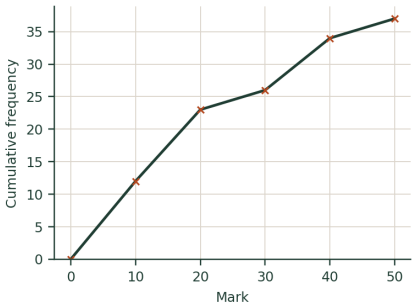
Answer _____

12 The cumulative frequency graph shows the marks of 43 students. Estimate the number of values greater than 30. **[4 marks]**



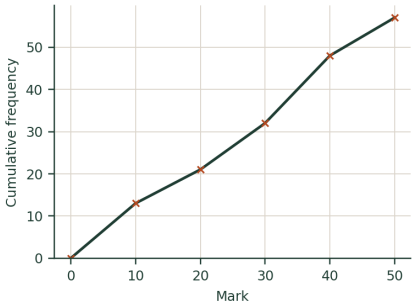
Answer _____

13 The cumulative frequency graph shows the marks of 37 students. Estimate the percentage of values less than 20. Give your answer to the nearest 1%. **[4 marks]**



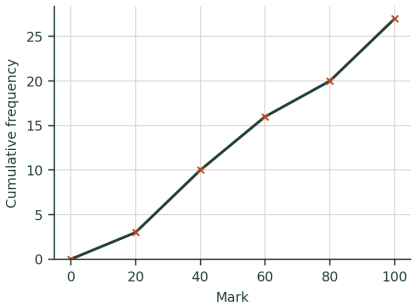
Answer _____

14 The cumulative frequency graph shows the marks of 57 students. Estimate the 90th percentile. **[4 marks]**



Answer _____

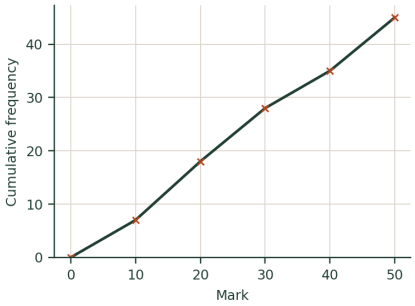
15 The cumulative frequency graph shows the marks of 27 students. Estimate the 10th percentile. **[4 marks]**



Answer _____

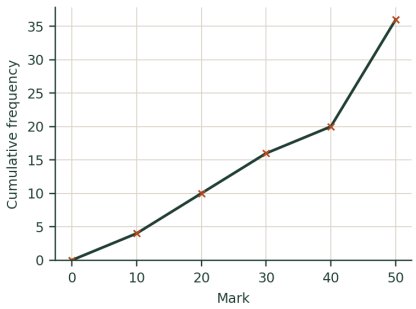
Challenge

16 The cumulative frequency graph shows the marks of 45 students. Another data set has median 5 higher and a smaller IQR. Write one comparison statement about the two sets. **[4 marks]**



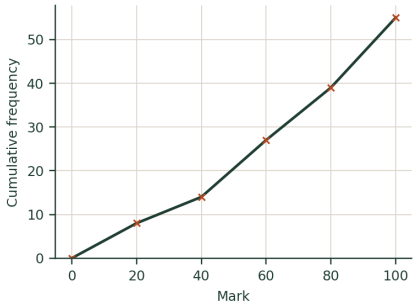
Answer _____

17 The cumulative frequency graph shows the marks of 36 students. Explain why the cumulative frequency graph is plotted at the upper class boundaries. **[4 marks]**



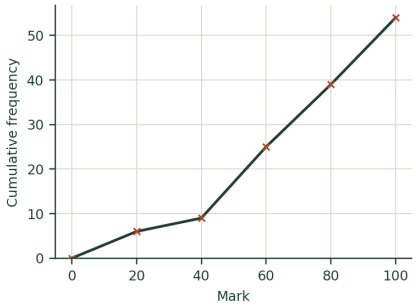
Answer

18 The cumulative frequency graph shows the marks of 55 students. Estimate the number of values between the median and the upper quartile? **[4 marks]**



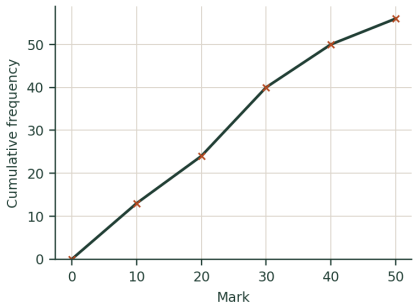
Answer

19 The cumulative frequency graph shows the marks of 54 students. What is the cumulative frequency at the highest value? **[4 marks]**



Answer _____

20 The cumulative frequency graph shows the marks of 56 students. Estimate the interquartile range and explain what it shows. **[4 marks]**



Answer _____