

Statistics GCSE

Paper 2

Edexcel Higher - 2026

Higher Tier

Variant 1 (same as video)

1ST0/2H

Instructions

- Write all answers in the spaces provided.
- Answer all questions.
- You must show all your working.
- There may not be enough space to show all your working out.

Information

- This is a practise paper to aid your revision for your exams.
- This site, and all that work on it, have no affiliation or relationship with any exam board.
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Advice

- You can get support for all these questions at our website: www.statsgcse.com
- This paper and more are available on our site with questions that change subtly after each attempt.
- Good luck!

- (c) David states that the probability that exactly one of the tests is false positive is less than 4%
Find out whether or not David is correct.

(3 marks)

2 The table shows information about cars for sale in Cambridge.

number of doors	number of cars
2	340
3	180
4	260
5	520
6 or more	500
Total	1800

A researcher wants to investigate the price of these cars and takes a stratified sample of 90 cars according to the number of doors.

(a) The researcher says the mode of the number of doors for these cars is 5.

Explain how the researcher knows this.

(1 mark)

(b) Work out the number of cars in the sample for each number of doors.

number of doors	number of cars in the sample
2	
3	
4	
5	
6 or more	

(3 marks)

(c) Describe how the 90 cars in the sample should be selected.

(3 marks)

- 3 Aisha works for an environmental agency. She has been tasked with investigating air pollution levels near schools.

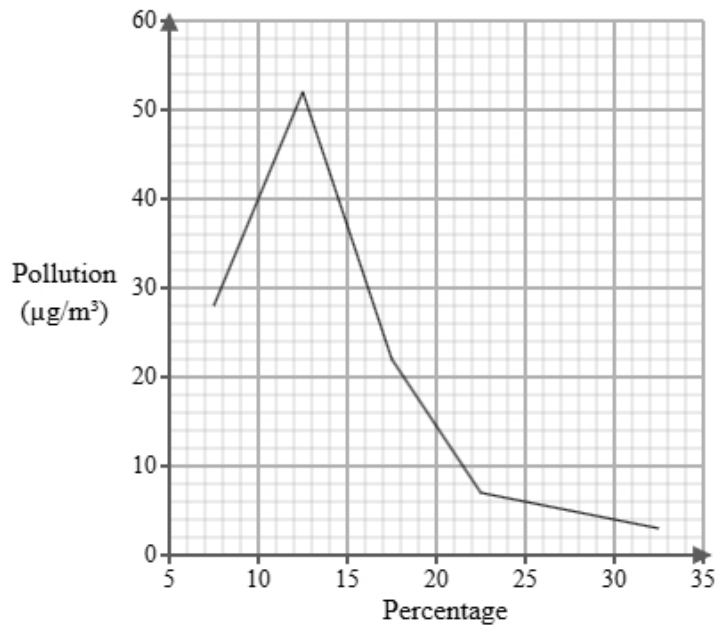
Below is a section of the spreadsheet she used to record her findings.

Pollution ($\mu\text{g}/\text{m}^3$)	Percentage
$5 < p \leq 10$	6
$10 < p \leq 15$	eight
$15 < p \leq 20$	8
$20 < p \leq 25$	117
$25 < p \leq 30$	48
$30 < p \leq 35$	13
Total	100

Aisha cleans the data to create the table below.

Pollution ($\mu\text{g}/\text{m}^3$)	Percentage
$5 < p \leq 10$	6
$10 < p \leq 15$	8
$15 < p \leq 20$	8
$20 < p \leq 25$	17
$25 < p \leq 30$	48
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Total	100

A frequency polygon has been drawn for air pollution levels near parks.



- i) On the same graph, draw the frequency polygon for air pollution levels near schools.
- ii) Using the two frequency polygons, compare the skew of the distributions and explain what your comparison means in context.

(4 marks)

- 4 The table shows information about the consumer price index (CPI) and TV Licence price (£) in the United Kingdom for Jan 2000, Jan 2010 and Jan 2020.

	Jan 2000	Jan 2010	Jan 2020
consumer price index	100	123	153
TV Licence price (£)	104	145.5	157.5

Describe how the increase in TV Licence price (£) compares with the CPI over the ten years to Jan 2010 and over the twenty years to Jan 2020.

(5 marks)

5 Sarah is investigating how the age in years, x , affects the resale price (£), y for two types of laptops, model A and model B.

She found ten laptops of each type and recorded their age and resale price and plotted each on scatter diagrams.

She then drew a line of best fit on each diagram and found the gradient and y-intercept of each line.

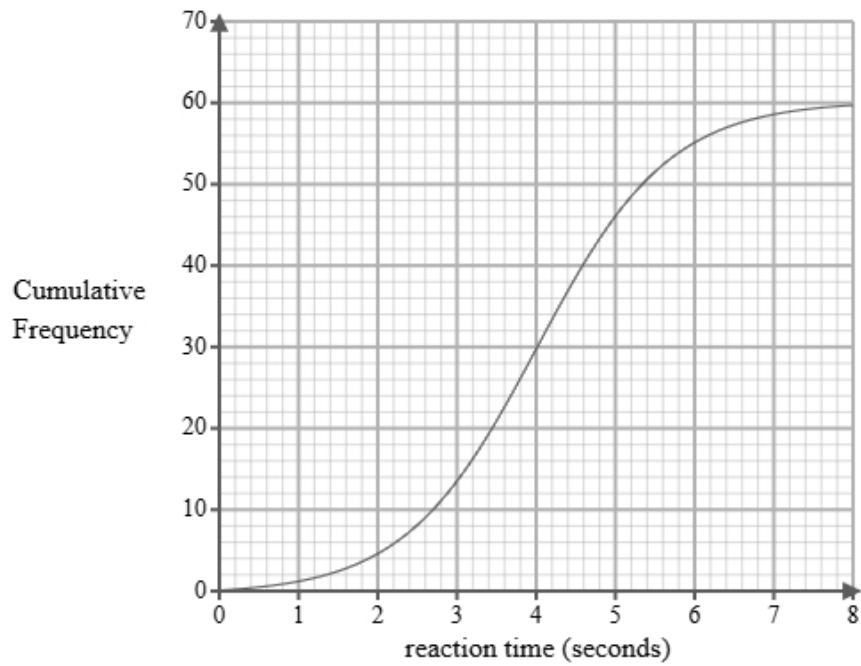
Here are the results:

Model	Gradient of line of best fit	y-intercept of line of best fit
A	-120	1500
B	-95	2000

Interpret and compare these results in context.

(5 marks)

- 6 A researcher measures the reaction times, in seconds, of 60 students completing a computer task. A cumulative frequency diagram is drawn from the data.



Complete the table below from the cumulative frequency diagram.

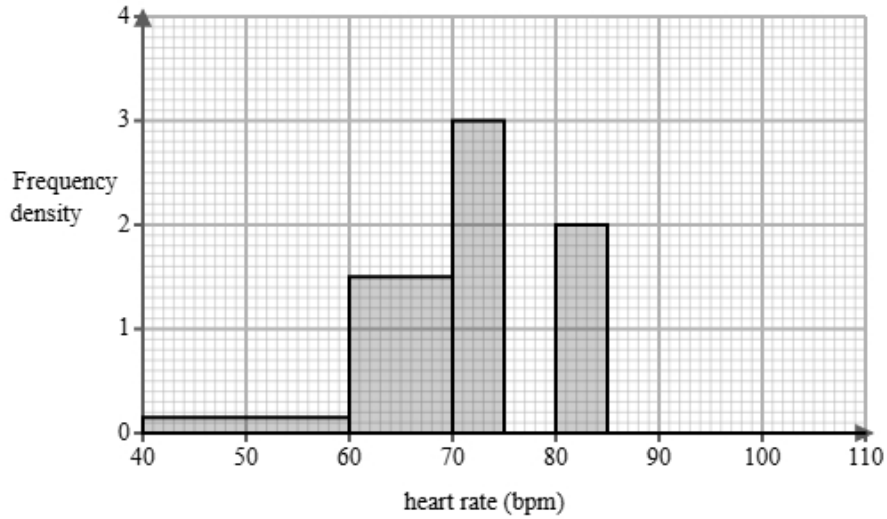
Lower quartile	Median	Upper quartile

(2 marks)

7 The heart rate is recorded in beats per minute (bpm).

A fitness instructor is analysing the resting heart rates of a group of 60 adult women after 12 hours without physical activity.

The partially completed histogram and grouped frequency table provide details about their heart rate measurements.



heart rate h (bpm)	Frequency
$40 < h \leq 60$	3
$60 < h \leq 70$	15
$70 < h \leq 75$	
$75 < h \leq 80$	12
$80 < h \leq 85$	
$85 < h \leq 110$	5

(a) Complete the table using the information from the histogram.

(2 marks)

(b) Complete the histogram using the information from the table.

(2 marks)

(c) The fitness instructor finds the following summary statistics for the data.

$$\sum h = 4467 \qquad \sum h^2 = 337697 \qquad n = 60$$

Explain whether or not there may be any outliers in the fitness instructor's data by calculating the limits for outliers using the mean and standard deviation.

You must round all values to 2 decimal places.

(5 marks)

(d) A different fitness instructor is analysing the resting heart rates of a group of adult men after 12 hours without physical activity.

They find the following summary statistics for the data.

mean = 79.56

median = 83

standard deviation = 11.2

Calculate and interpret the skew for the men.

You must round your answer to 2 decimal places.

(3 marks)

(e) Find the class interval that contains the 15th percentile.

(1 mark)

- 8 Jake is researching the final league position of basketball teams in a local league and the mean heights of all the players in each team.

The table below shows the data collected.

Team	Mean Height (cm)	Height Rank	Final Position	d	d ²
Albion	168	5	6	-1	1
Bristol	162	2	1	1	1
Canterbury	171	7	8	-1	1
Durham	165	4	4	0	0
Exeter	170	6	5		
Fulham	164	3	2		
Guildford	173	8	7		
Harrow	161	1	3		

- (a) Jake would like to see if there is an association between the final position and the mean value.

Suggest a diagram that Jake could draw.

(1 mark)

(b) i) Calculate Spearman's rank correlation coefficient from the data in the table and leave your answer to 2 decimal places.

ii) Interpret your answer to **part i**, referring to the effects of any anomalous data.

(5 marks)

(c) Jake used Spearman's rank correlation coefficient to analyse the data.

Oliver suggests that Jake could have used Pearson's product moment correlation coefficient.

Discuss whether using Pearson's product moment correlation coefficient is appropriate for this data.

(3 marks)

- 9 Aisha works for an environmental agency. She has been tasked with investigating air pollution levels near schools.

Below is a section of the spreadsheet she used to record her findings.

Pollution ($\mu\text{g}/\text{m}^3$)	Percentage
$5 < p \leq 10$	6
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- (a) Give a reason Aisha cleaned the data.

(1 mark)

(b) Use linear interpolation to work out an estimate of the median air pollution level.
Round your answer to one decimal place.

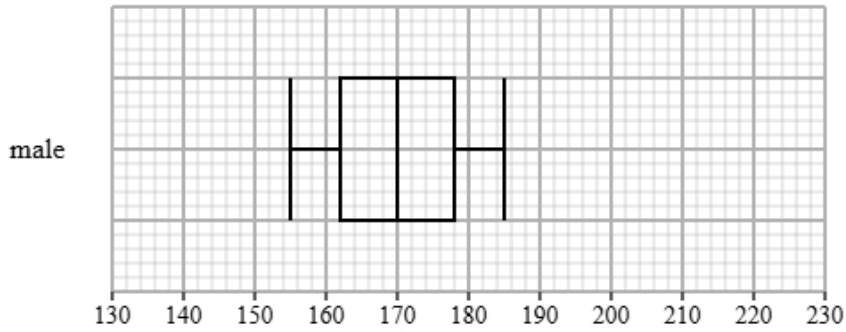
(3 marks)

_____ $\mu\text{g}/\text{m}^3$

10 Sophie recorded the heights of male and female students in a school.

Both groups were measured using the same method.

The box plot shows information about the heights for the male students.



The table gives information about the heights for the female students.

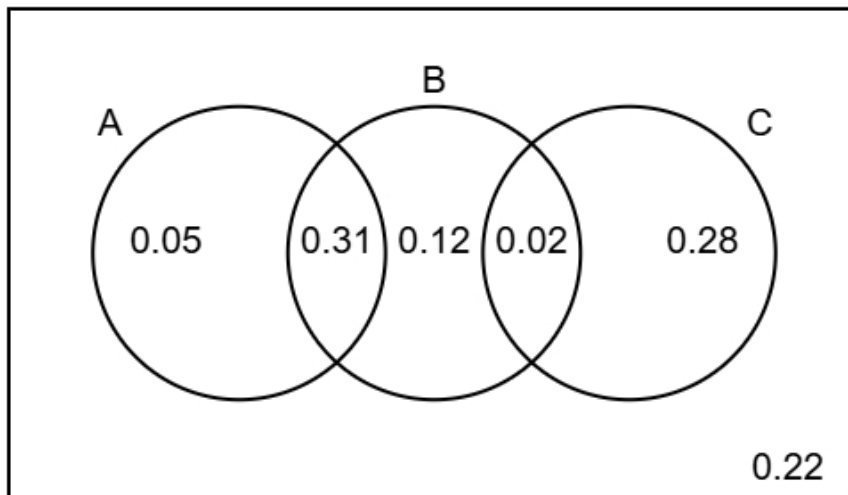
Least tall	Lower quartile	Median	Upper quartile	Most tall
150	158	162	172	190

Compare the two distributions of heights.

Give three comparisons and interpret one of these comparisons.

(4 marks)

11 The Venn diagram illustrates the probabilities associated with events A, B, and C.



(a) Identify the **two** events that are mutually exclusive, giving a reason for your answer.

(2 marks)

(b) Find $P(B)$

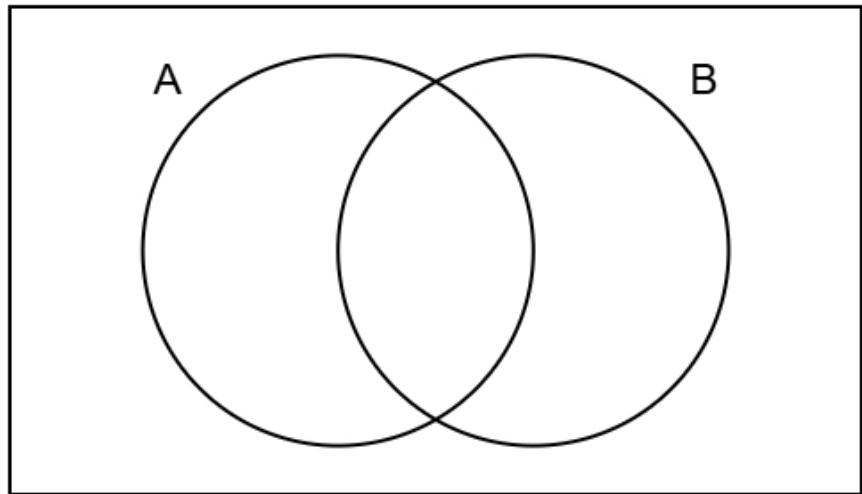
(1 mark)

(c) Find $P(A \text{ or } C)$

(2 marks)

(d) Complete the Venn diagram to show **only** the probabilities for events A and B.

(2 marks)



12 The figures below show the amount, in millions, of tourists who visited Spain between 2010 and 2016

56 59 61 58 62 65 67

The table gives a summary of the amount, in millions, of tourists who visited France between 2010 and 2016

Mean	Standard Deviation	Largest Amount
60	7	69

Compare the amount of tourists in Spain and France between 2010 and 2016

You may use:

$$56^2 + 59^2 + 61^2 + 58^2 + 62^2 + 65^2 + 67^2 = 26260$$

(5 marks)

13 The ages of a group of boys have a mean of 5.6 years and a standard deviation of 0.8 years.

(a) Liam is boy with a standardised score of 0.

Find Liam's age.

(1 mark)

_____ years

(b) Daniel and Alex are both boys in the group.

Daniel's standardised score for age is 0.9 years.

Alex's standardised score for age is -0.5 years.

Daniel is older than Alex.

How much older is Daniel?

(3 marks)

_____ years

