

Statistics GCSE**Paper 2**

Edexcel Foundation - 2026

Foundation Tier

Variant 3

1ST0/2F

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.
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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!

1



Noah has 6 number tiles shown above.

All of the tiles are placed inside a bag then a random tile is drawn from the bag.

- (a) Select the word describes the likelihood that the tile has a 3 on it.

(1 mark)

Select **one** box.

- unlikely
- evens
- certain
- impossible
- likely

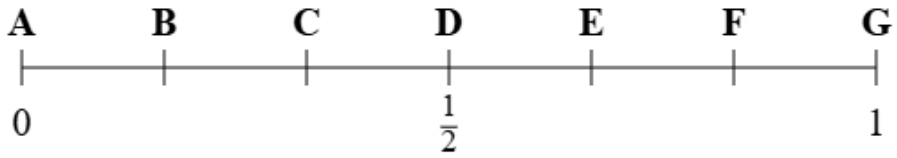
- (b) Select the word describes the likelihood that the tile has a number more than 3 on it.

(1 mark)

Select **one** box.

- evens
- certain
- likely
- impossible
- unlikely

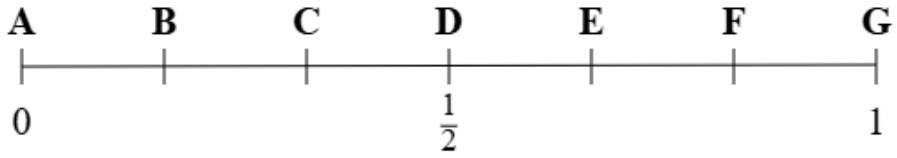
(c)



Using the probability scale, write down the letter that shows probability that the tile has a 1 on it.

(1 mark)

(d)



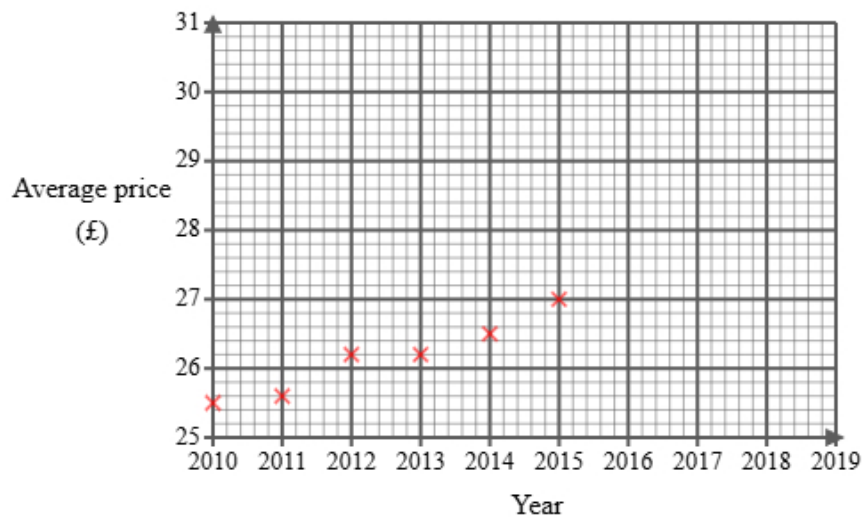
Using the probability scale, write down the letter that shows probability that the tile has a 2 or a 3 on it.

(1 mark)

2 Ethan found the following information about the average price of a football match ticket in England.

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Average price (£)	25.50	25.60	26.20	26.20	26.50	27.00		28.00	28.20	28.50

He did not find the price for 2016 and has started to draw a graph for the data.



Ethan then used statistical software to calculate the equation for the trend line.

- (a) (i) Plot the average price for each of 2017, 2018 and 2019
(ii) Draw a trend line for Ethan's data
(iii) Describe the trend in the average price of a football match ticket in the UK from 2010 to 2019

(4 marks)

(b) The gradient of Ethan's trend line is 0.35

Interpret this gradient.

(1 mark)

(c) Explain whether or not the scale used on the 'average price' axis could make the graph misleading.

(2 marks)

(d) Ethan draws the trend line onto the graph.




He suggests that the trend line could be used to estimate the average price for 2016 **and** 2020

Explain whether each of these estimates would be reliable.


You should **not** work them out.

(3 marks)

- 3 A greengrocer keeps track of how many apples they sell every day of the week. This helps them ensure that they always have fresh stock.

Monday	
Tuesday	
Wednesday	
Thursday	
Friday	

Key:

 represents 8 apples

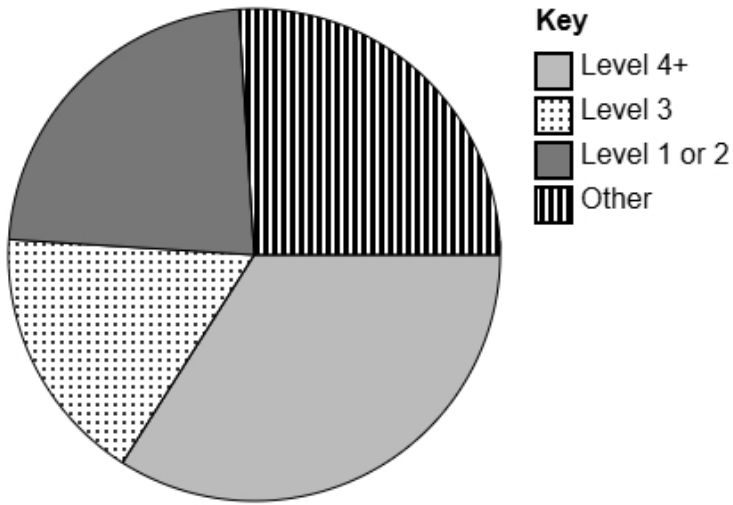
- (a) On Thursday, the number of apples sold was 24.
Show this information on the pictogram.

(1 mark)

- (b) Eduardo suggests redrawing the pictogram using a key with a whole-circle representing 5 apples.
Explain why this key would **not** be suitable.

(1 mark)

4 The accurately drawn pie chart shows information about the highest level of qualification in England and Wales in 2021.



(a) Explain how you can tell that most people's highest level of qualification was level 4+ in England and Wales in 2021 using the pie chart.

(1 mark)

(b) The population in the England and Wales in 2021 was estimated to be 60 million.
Calculate an estimate for the number of people in the UK in 2021 who's highest level of qualification was 'Level 4+'.

Round your answer to the nearest million.

(2 marks)

_____ million

5 Emma owns a bookstore.

She wants to collect information about types of books liked by people in her city.

The following list gives the information she is going to collect about people's favourite books:

genre

average reading time

number of pages

(a) Select the information that is categorical data from the list.

(1 mark)

(b) Select the information that is discrete data from the list.

(1 mark)

(c) Emma would like to send a questionnaire to 100 of her customers.

She has a list of all 500 of her customers.

Explain how Emma can select a systematic sample of 100 people from her list of customers.

(2 marks)

6 Chloe is a student and wants to study music preferences.
She would like to find out the most popular music genre in her school.

Chloe decides to do convenience sampling outside the school gate an hour after school and uses the data collection sheet shown here:

Music genre	Tally
Pop	
Rock	
Hip-hop	
Classical	

(a) State the population for this study.

(1 mark)

(b) Describe what is meant by a convenience sample.

(1 mark)

(c) Give **one** disadvantage of convenience sampling.

(1 mark)

(d) Discuss whether this data collection sheet is appropriate for Chloe to collect the data.

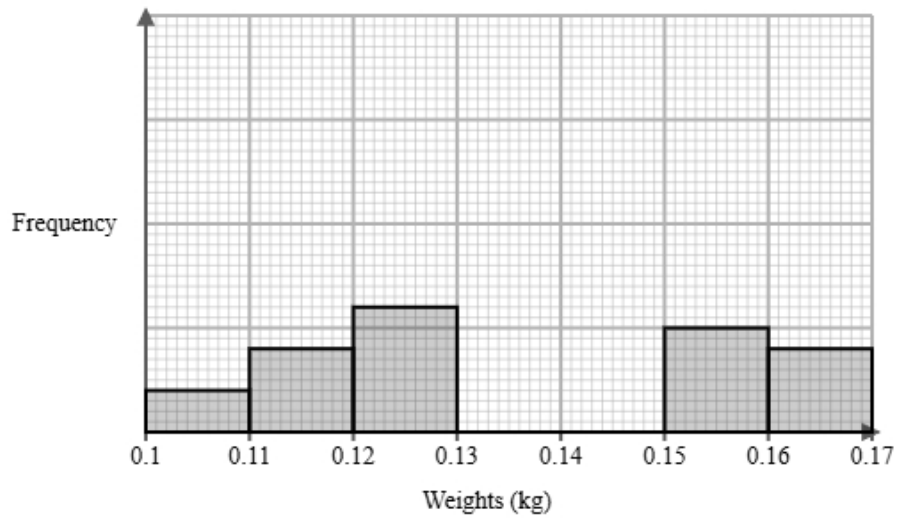
(2 marks)

(e) After collecting the data, Chloe would like to display the data in a diagram.

Discuss whether or not a stem and leaf diagram would be suitable.

(2 marks)

- 8 A greenhouse worker measured the weights of Roma tomatoes and plum tomatoes in the greenhouse. They recorded the weights after 3 months. The incomplete histogram and grouped frequency table give information about the weights of Roma tomatoes in the greenhouse.



Weights w (kg)	Frequency
$0.10 < w \leq 0.11$	2
$0.11 < w \leq 0.12$	4
$0.12 < w \leq 0.13$	6
$0.13 < w \leq 0.14$	11
$0.14 < w \leq 0.15$	9
$0.15 < w \leq 0.16$	
$0.16 < w \leq 0.17$	

- (a) Use the information in the histogram to complete the table.

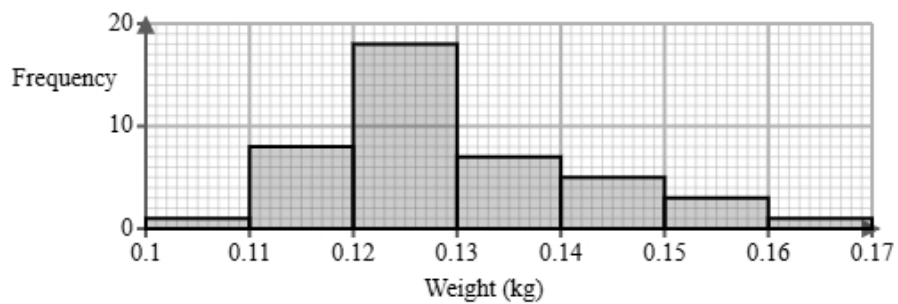
(2 marks)

Weights w (kg)	Frequency
$0.10 < w \leq 0.11$	2
$0.11 < w \leq 0.12$	4
$0.12 < w \leq 0.13$	6
$0.13 < w \leq 0.14$	11
$0.14 < w \leq 0.15$	9
$0.15 < w \leq 0.16$	_____
$0.16 < w \leq 0.17$	_____

(b) Use the information in the table to complete the histogram.

(2 marks)

(c) The histogram below shows data on the weights of plum tomatoes after 3 months.



Identify and interpret the type of skew shown in the histogram for plum tomatoes.

(2 marks)

(d) The greenhouse worker also measured the weights of Roma tomatoes and plum tomatoes in the polytunnel. The grouped frequency table below gives information about the weights of Roma tomatoes and plum tomatoes in the polytunnel.

Weights w (grams)	Frequency	
	Roma tomatoes	plum tomatoes
$20 < w \leq 60$	4	5
$60 < w \leq 100$	15	18
$100 < w \leq 140$	13	6
$140 < w \leq 180$	4	4
Total	36	33

The estimate of the mean for Roma tomatoes is calculated to be 98.9 g to 1 decimal place.

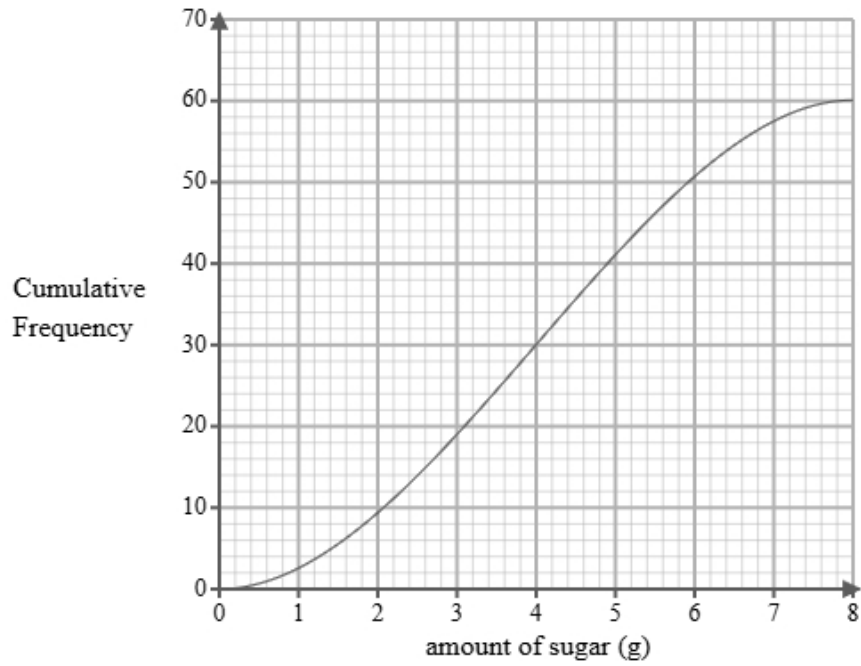
David uses the estimate of the means for Roma tomatoes and plum tomatoes to conclude that the Roma tomatoes weigh less than plum tomatoes.

Discuss whether or not David is correct and give **one** limitation of your conclusion.

You must show your working.

(4 marks)

- 9 A researcher measures the amount of sugar, in grams, in 60 different breakfast cereals.
A cumulative frequency diagram is drawn from the data.



Complete the table below from the cumulative frequency diagram.

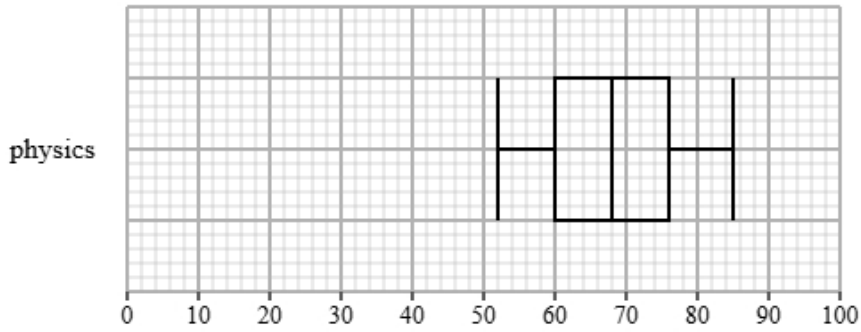
Lower quartile	Median	Upper quartile

(2 marks)

10 Olivia collected the marks for physics and business students from a statistics exam.

Both groups took the same exam.

The box plot presents data on the marks for the physics students.

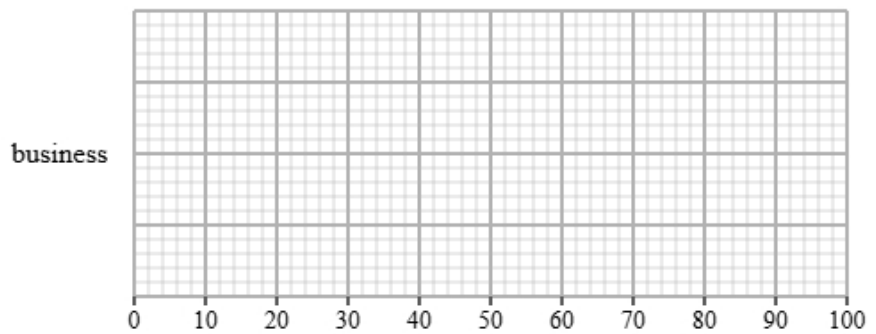


The table gives information about the marks for the business students.

Least tall	Lower quartile	Median	Upper quartile	Most tall
52	58	60	72	85

(a) Draw a box plot for the marks for the business students.

(2 marks)

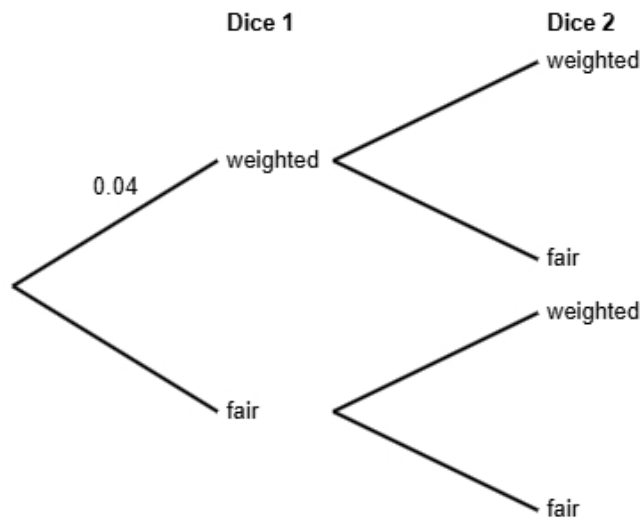


(b) Compare the two distributions of marks.

Give three comparisons and interpret one of these comparisons.

(4 marks)

- 11** A company found that 4% of its dice are slightly weighted and do not roll fairly.
 The rest of the dice are perfectly balanced.
 Jack picks two dice from a random batch.
 He does not know if each die is weighted or fair.



- (a) Complete the probability tree diagram.

(2 marks)

- (b) Find the probability that both of Jack's dice are fair.

(2 marks)

- (c) Jack states that the probability that exactly one dice is weighted is less than 8%
Find out whether or not Jack is correct.

(3 marks)

12 The table shows information about laptops for sale in London.

screen size (inches)	number of laptops
13	660
15	540
17	240
19	150
20 or more	210
Total	1800

A researcher wants to investigate the price of these laptops and takes a stratified sample of 60 laptops according to the screen size (inches).

(a) The researcher says the mode of the screen size (inches) for these laptops is 13.

Explain how the researcher knows this.

(1 mark)

(b) Work out the number of laptops in the sample for each screen size.

screen size (inches)	number of laptops in the sample
13	
15	
17	
19	
20 or more	

(3 marks)

(c) Describe how the 60 laptops in the sample should be selected.

(3 marks)

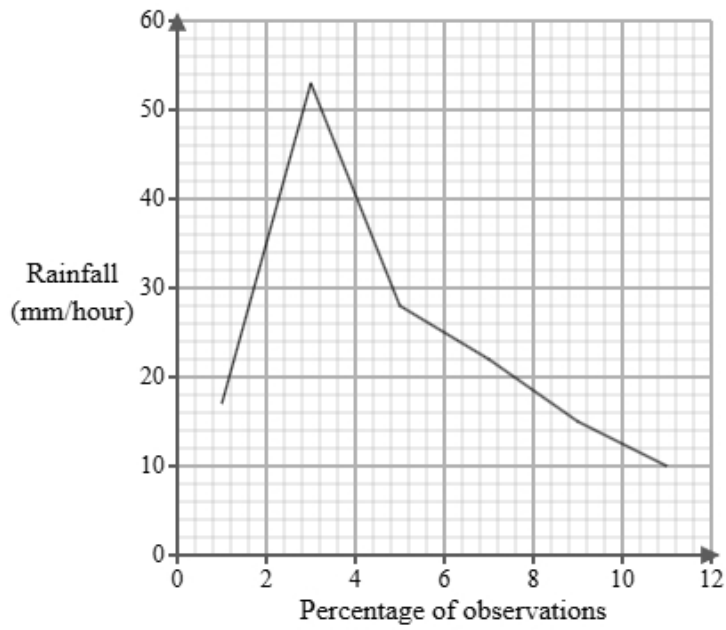
- 13 Priya works for a meteorological office. She has been tasked with investigating rainfall intensity in June. Below is a section of the spreadsheet she used to record her findings.

Rainfall (mm/hour)	Percentage of observations
$0 < r \leq 2$	5
$2 < r \leq 4$	eight
$4 < r \leq 6$	7
$6 < r \leq 8$	120
$8 < r \leq 10$	47
$10 < r \leq 12$	13
Total	100

Priya cleans the data to create the table below.

Rainfall (mm/hour)	Percentage of observations
$0 < r \leq 2$	5
$2 < r \leq 4$	8
$4 < r \leq 6$	7
$6 < r \leq 8$	20
$8 < r \leq 10$	47
$10 < r \leq 12$	13
Total	100

A frequency polygon has been drawn for rainfall intensity in August.



- i) On the same graph, draw the frequency polygon for rainfall intensity in June.
- ii) Using the two frequency polygons, compare the skew of the distributions and explain what your comparison means in context.

(4 marks)

- 14** The table shows information about the retail price index (RPI) and NHS Prescription Charges (£) in England for Jan 1995, Jan 2005 and Jan 2015.

	Jan 1995	Jan 2005	Jan 2015
retail price index	100	121	173
NHS Prescription Charges (£)	5.25	6.5	8.05

Describe how the increase in NHS Prescription Charges (£) compares with the RPI over the ten years to Jan 2005 and over the twenty years to Jan 2015.

(5 marks)

15 Aisha is investigating how the age in years, x , affects the resale price (£), y for two types of smartphones, model X and model Y.

She found ten smartphones 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
X	-80	900
Y	-65	1100

Interpret and compare these results in context.

(5 marks)
