Questionnaire

£2

Explain why this question is not suitable to use in a questionnaire.
"Most people think that BBC1 is the best channel. Do you agree?" Write an alternative question.

Finding the Median

£2

The table shows the distribution of the heights of 30 basketball players.

Height, h cm	Frequency
160 ≤ w < 170	1
170 ≤ h < 180	12
180 ≤ h < 190	11
190 ≤ h < 200	6

Tariq says
"The median group is 170 ≤ h <180". Tariq is incorrect but why? What mistake has he made?

Positive Correlation

£2

Give an example of two variables that have positive correlation and sketch their graph.

Conducting a Survey

£2

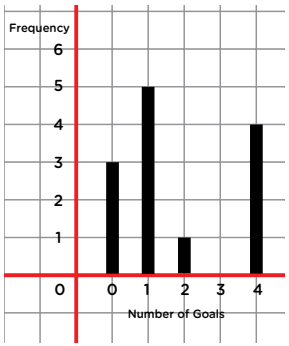
The table shows the number of pupils in each year at West High. The Headmaster wishes to survey 50 pupils to have their input on school issues. Explain why the Head should not choose a random sample of pupils to take part. What should he do?

Year 7	138
Year 8	96
Year9	65
Year 10	116
Year 11	125

The Mean

£2

"The mean number of goals scored by the team is 1"
Explain how you can use the graph to prove that this statement is correct or incorrect.



Drinks

These mixed questions will make a great accompaniment to your meal.

Histogram

£2

A group of children were weighed. The table shows the distribution of their weights.
Draw a histogram for this data.

Weight, w (kg)	Frequency
30 ≤ w < 40	8
40 ≤ w < 45	24
45 ≤ w < 50	18
50 ≤ w < 70	10

Scatter Graph

£3

The table shows the ages of 10 cars and their value to the nearest £100.

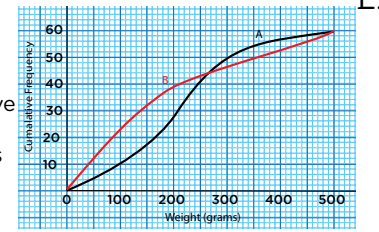
Age, years	8	7	6	2	1	6	2	3	7	4
Value, £	3400	4500	8200	1400	16000	1800	9600	7000	1900	6700

Draw a scatter graph for this information, choosing an appropriate scale. Draw a line of best fit and estimate the value of a 5 year old car.

Parcel Weights

£2

The weights of small parcels delivered by Postmen A and B are shown in the cumulative frequency diagram. Make two comparisons between the two distributions.



Waiting Times

£3

The waiting times for patients to be seen by a doctor at Park Lane Surgery were recorded.

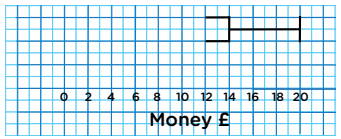
Time, t (minutes)	<5	<10	<15	<20	<25	<30
Cumulative Frequency	3	6	17	38	57	60

Draw a cumulative frequency diagram for this data and find the median waiting time.

Box Plot

£3

The box plot shows information on the amount of pocket money teenagers receive but it is incomplete. Complete the box plot knowing that the range is £14, 50% of teenagers have less than £12 and the interquartile range is £5.



eduqas
Part of WJEC

Maths Take-Away Menu

Statistics

GCSE Mathematics
Higher Tier

Using this Take-Away Menu

For each sitting you will need to choose a Starter, Main Course, Dessert & Drink.

The prices vary for each course.

This symbol indicates that a calculator may be used when answering the question.

Remember to ensure that you show your workings clearly.

If you have any questions don't forget to ask your waiter (that's your teacher).

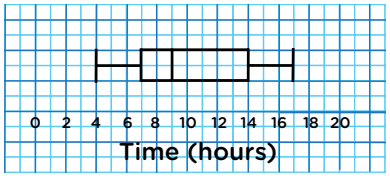
Enjoy your meal!

Starters

These are quick questions designed to warm you up and get your appetite for maths going!

Box Plot £1

Use the box plot to find the interquartile range for the daily working hours of nurses.



Cumulative Frequency £2

Draw and complete a cumulative frequency table using the data given in the frequency table.

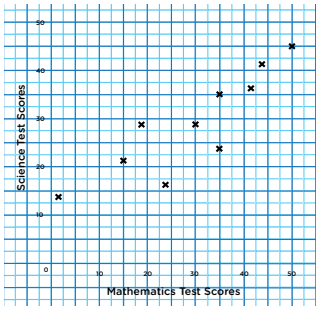
Temperature, t °C	Frequency
0 ≤ t < 5	3
5 ≤ t < 10	8
10 ≤ t < 15	16
15 ≤ t < 20	9
20 ≤ t < 25	4

Pie Chart £1

Ali is drawing a pie chart to represent the number of hours spent doing different activities in a 24 hour day. She spends 3 hours watching TV. What size angle does she need to draw to represent this?

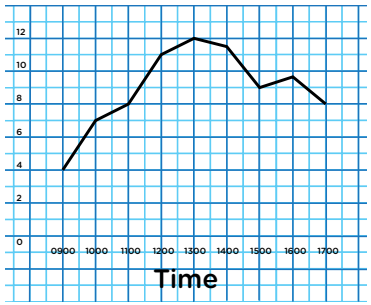
Scatter Graph £2

The scatter graph shows student's Mathematics test scores and Science test scores. In what subject was the largest range of results?



Temperatures £2

The graph shows the temperature taken in a town every hour over a day. Estimate the temperature at 1130 and at what other time is the temperature the same?



Main Course

Your main dish is Statistics based and is served with 'portions' from other areas of Maths or real life applications. These problem solving questions may take a bit more time to digest.

Car Sales £4

The table shows the selling prices of second hand cars at Wayne's Wheels.

Price, £	Frequency
500≤ t < 1000	6
1000 ≤ t < 1500	12
1500 ≤ t < 2000	4
2000≤ t < 2500	13
2500 ≤ t < 3000	5

Wayne pays his sales team 5% commission of the cars selling price.

A) Estimate the average commission earned for each car sale.

B) If Essi expects to receive £1216.25 commission in her monthly pay, estimate the percentage of cars that she sold?

Grades £4

Draw a cumulative frequency diagram for the following French test results.

Mark	1 -20	21 - 40	41 - 60	61 - 80
Frequency	4	17	23	16

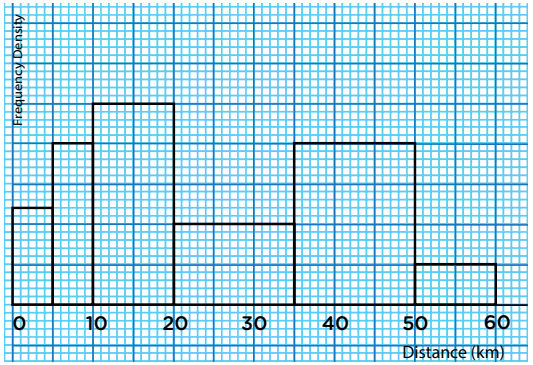
The French department decide that pupils in the top 10% should be awarded an A grade. The grade boundaries also meant 10% of pupils failed. What was the minimum mark for an A grade and what mark was needed to pass the test? £4

Work's a Piece of Pie! £4

Eva works at a supermarket. She works on the checkout and also on the shop floor in different departments throughout the day. Her time on the shop floor and checkout is in the ratio 2:1. Of the time she's on the shop floor 3/8 of the time is spent stacking shelves, 15% of her time is in the bakery and the remainder is on customer services. Draw a pie chart to represent this information.

Travelling to Work £4

The histogram shows the distribution of distances (km) that employees at an office travel to get to work each day.



A) Knowing that 5 employees travel more than 50km to work complete the frequency density.

B) Estimate the percentage of employees that travel less than 15km to work.

Dessert

"The proof of the pudding is in the eating".

These questions are designed to test your understanding of key statistics concepts.