


Rewarding Learning

General Certificate of Secondary Education
2018

Centre Number

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Candidate Number

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Statistics

Unit 1
Foundation Tier



GST11

[GST11]

THURSDAY 21 JUNE, MORNING

TIME

1 hour 30 minutes.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

Write your answers in the spaces provided in this question paper.

Answer **all eleven** questions.

Any working should be clearly shown in the spaces provided since marks may be awarded for partially correct solutions.

You **may** use a calculator for this paper.

INFORMATION FOR CANDIDATES

The total mark for this paper is 80.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

You should have a calculator, ruler, compasses and protractor.

There is no formula sheet for this examination.

For Examiner's
use only

Question Number	Marks
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Total
Marks

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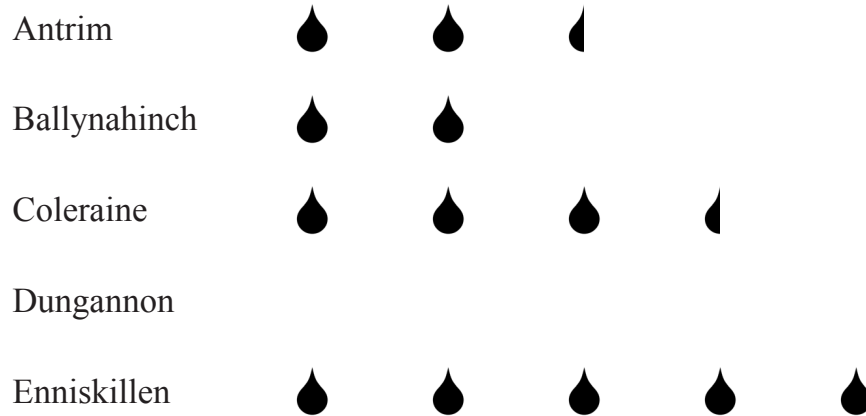
Answer **all** questions

Examiner Only	
Marks	Remark

- 1** The pictogram below shows the number of days of rainfall in September in five towns in Northern Ireland.

KEY

 represents 2 days of rainfall



- (a)** How many days of rainfall were there in Coleraine during September?

Answer _____ [1]

There were 6 days of rainfall in Dungannon during September.

- (b)** Use this information to complete the pictogram. [1]

- (c) (i) Charlie says that  is not a good symbol to use for this pictogram and that  would be a better symbol to use.

Do you agree or disagree with Charlie?

Tick the correct box.

Agree

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Disagree

7

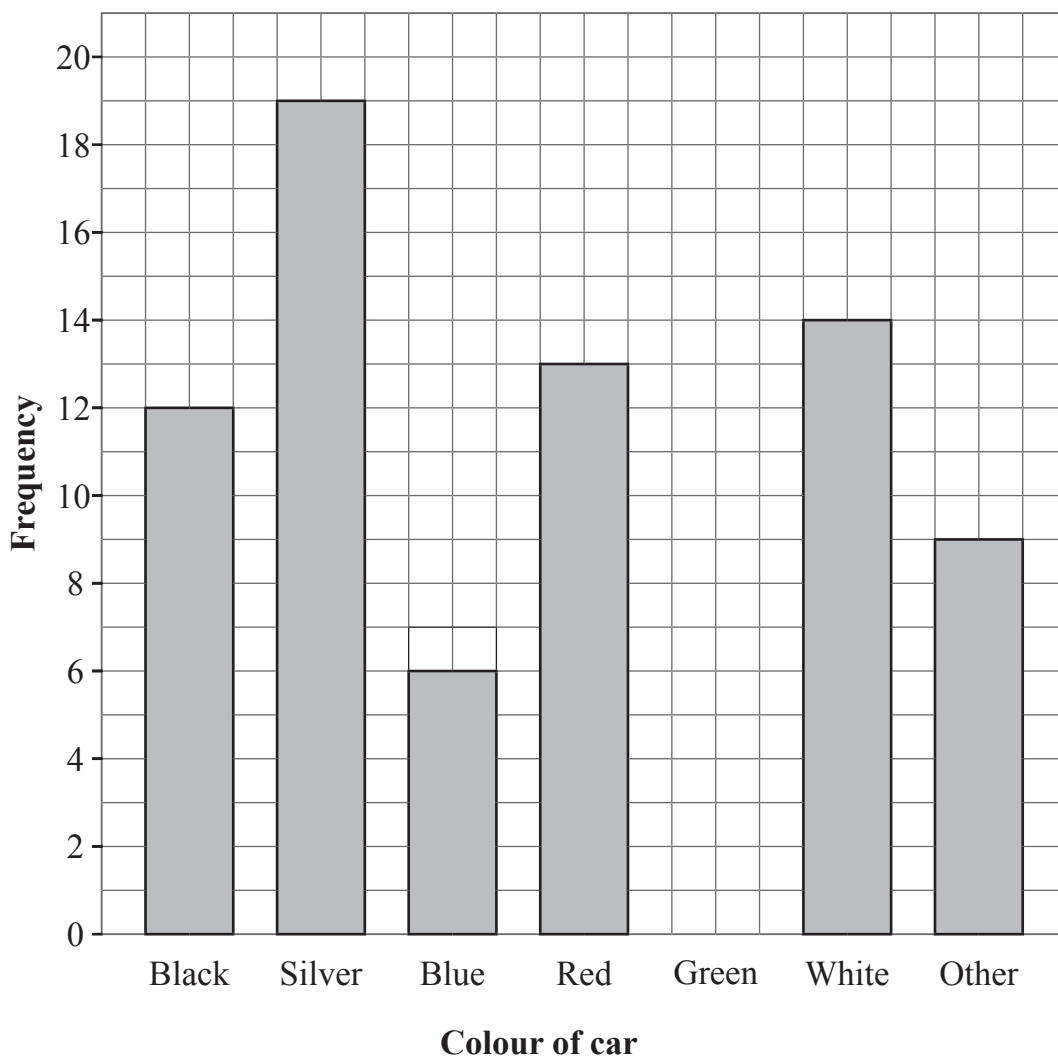
[1]

- (ii) Give a reason to explain your answer.

Reason

 [1]

Amy drew a bar chart to display the data she collected.



(e) Complete the bar chart. [1]

(f) Has Amy collected primary data or secondary data?

Tick the correct box.

Primary Data ☐

Secondary Data ☐

[1]

- 3** A group of Year 10 pupils were asked to name their favourite science subject.

The table below shows the results.

	Biology	Chemistry	Physics	TOTAL
Boys	35	39		122
Girls		23	52	
TOTAL	78		100	240

- (a) Complete the missing values in the table. [3]

- (b) A pupil is chosen at random from the group.

Find the probability that the pupil's favourite science subject is Biology.

Answer _____ [1]

- (c) A girl is chosen at random from the group.

Find the probability that her favourite science subject is **not** Chemistry.

Answer [2]

- (d)** There are 24 pupils in one of the Year 10 classes.

How many pupils in this class would you expect to have Physics as their favourite science subject?

Answer [2]

Examiner Only	
Marks	Remark

(b) For these data

(i) work out the median,

Answer _____ [2]

(ii) calculate the range.

Answer _____ [1]

For the boys, the median was 23 text messages and the range was 29 text messages.

(c) Use this information and your answers to parts **(b)(i)** and **(b)(ii)** to compare the number of text messages received by the girls with the number of text messages received by the boys.

Comparison 1 _____

_____ [1]

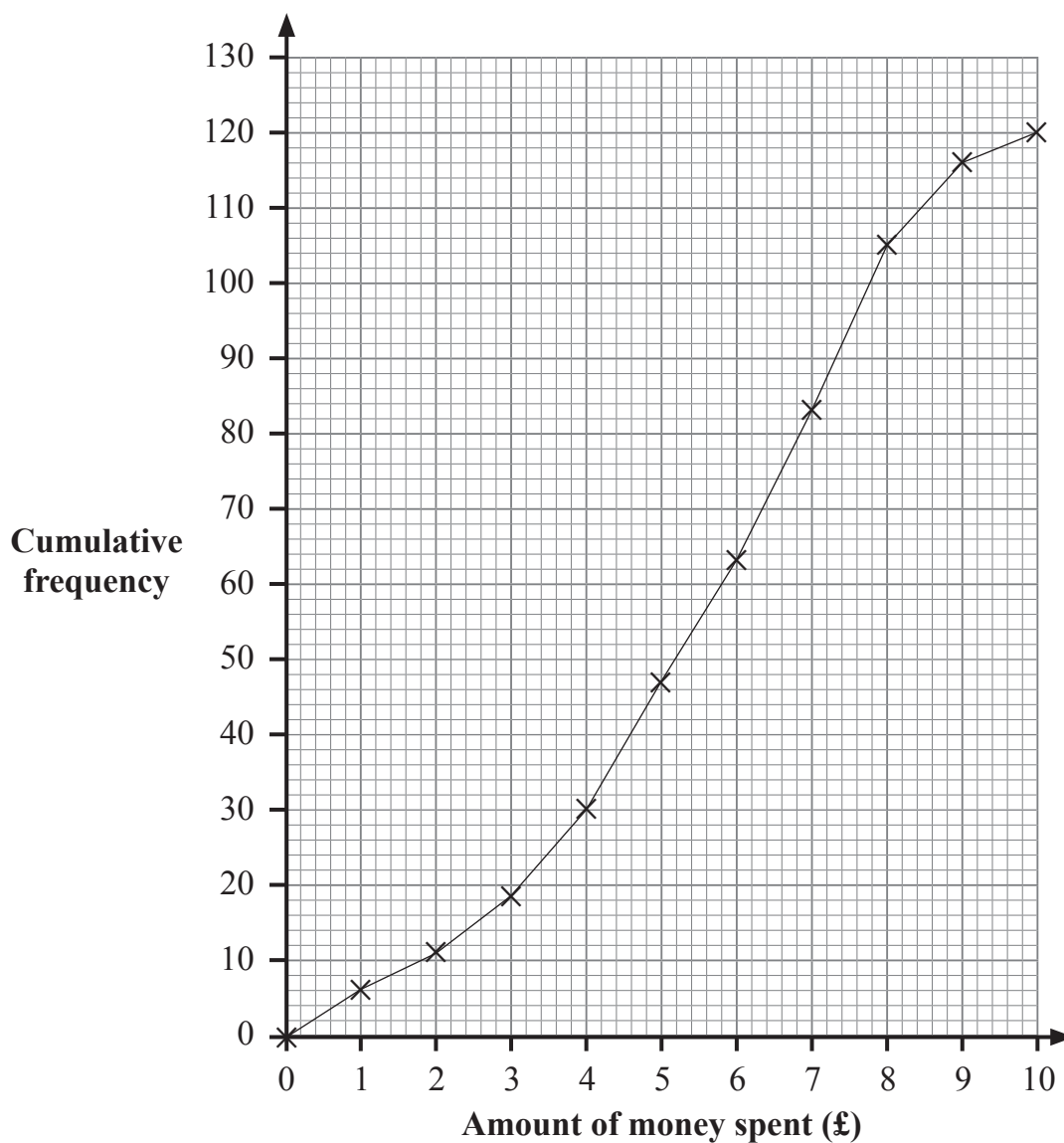
Comparison 2 _____

_____ [1]

Examiner Only	
Marks	Remark

- 6** In a survey, a researcher asked 120 customers leaving a shop how much money they had just spent.

A cumulative frequency diagram for this data is shown below.



- (a) Using the cumulative frequency diagram, estimate
- (i) the median amount of money spent in the shop;

Answer £ [1]

- (ii)** the interquartile range of the amount of money spent in the shop.

Answer £ _____ [2]

(c) Use the line of best fit to estimate the price of a car which is 6 years old.

Answer £ _____ [1]

(d) Paul thinks he might look for a brand new car instead of a second hand one.

(i) Use the line of best fit to estimate the price of a brand new car for Paul.

Answer £ _____ [1]

(ii) Comment on the reliability of this estimate.

_____ [1]

Examiner Only	
Marks	Remark

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(Questions continue overleaf)

- 9 A mail order company operates a customer service helpline.

On its website the company claims that calls are answered, on average, within 20 seconds.

One day, the manager records the length of time taken to answer all calls to the helpline.

The results are given in the table below.

Time, t (seconds)	Frequency, f		
$0 < t \leq 10$	343		
$10 < t \leq 20$	214		
$20 < t \leq 30$	197		
$30 < t \leq 40$	145		
$40 < t \leq 50$	72		
$50 < t \leq 60$	29		
TOTAL	1000		

- (a)** Give one advantage and one disadvantage of using a grouped frequency table for this data.

Advantage _____

[1]

Disadvantage _____

[1]

Examiner Only	
Marks	Remarks

(b) Calculate an estimate of the mean time taken to answer a call.

You may use the blank columns in the table opposite to help you with your working.

Answer _____ seconds [4]

(c) Using your answer to part **(b)**, explain whether or not the claim made by the company is justified.

[2]

Examiner Only	
Marks	Remark

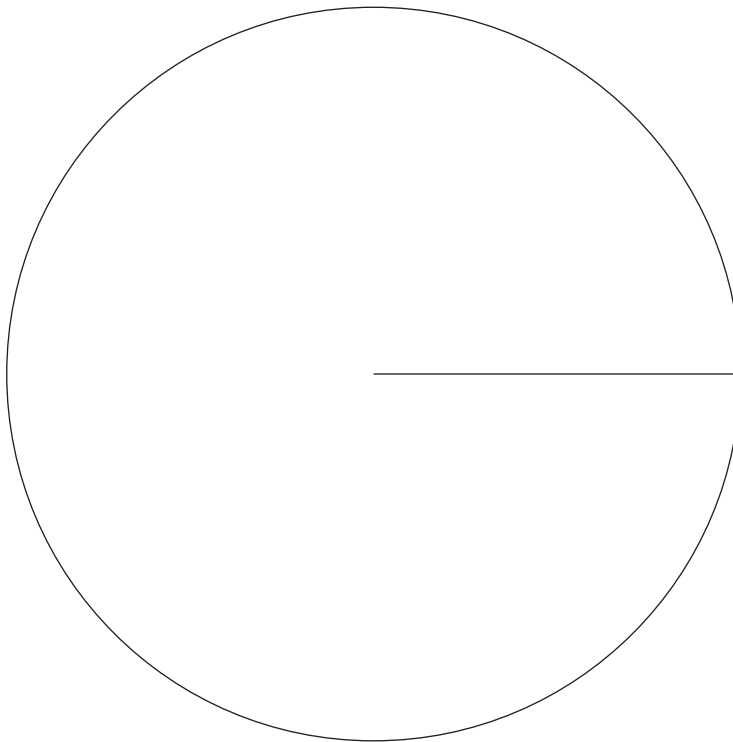
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(Questions continue overleaf)

In a different survey about fitness, 120 people were asked how often they exercise each week.

The results are given in the frequency table below.

How often	Number of people	
Never	17	
Once	72	
Twice or more	31	

(c) Draw a clearly labelled pie chart for the above data.



[4]

(d) Give one reason why it would not be possible to find the exact value of the mean from the frequency table above.

Reason _____

[1]

THIS IS THE END OF THE QUESTION PAPER

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