

8300

GCSE MATHEMATICS

Foundation and Higher tier – Questions by Topic

Statistics

Drawing and interpreting tally charts

v1.0

Name _____

Materials

For this paper you must have:

- Mathematical instruments

Information

- The marks for questions are shown in brackets

Advice

- In all calculations, show clearly how you work out your answer

For questions 1 to 3 you must **NOT** use a calculator.



Q1.
30 people gave their favourite flavour of ice-cream.
Complete the tally chart and pictogram.
Remember to complete the key for the pictogram.

Tally chart to show favourite flavour of ice-cream

Flavour	Tally	Frequency
Vanilla		10
Chocolate		8
Strawberry		
Mint Choc Chip		5
Total		30

Pictogram to show favourite flavour of ice-cream

Key:  = _____ people

Vanilla	
Chocolate	   
Strawberry	   
Mint Choc Chip	

(Total 4 marks)

Q2.

Shamira uses a tally chart to record the vehicles passing her school.
Here is her chart with the tallies.
Each 5-bar gate (||||) represents 5 vehicles.

Vehicle	Tally	Frequency
Car		
Bus		
Van		
Lorry		

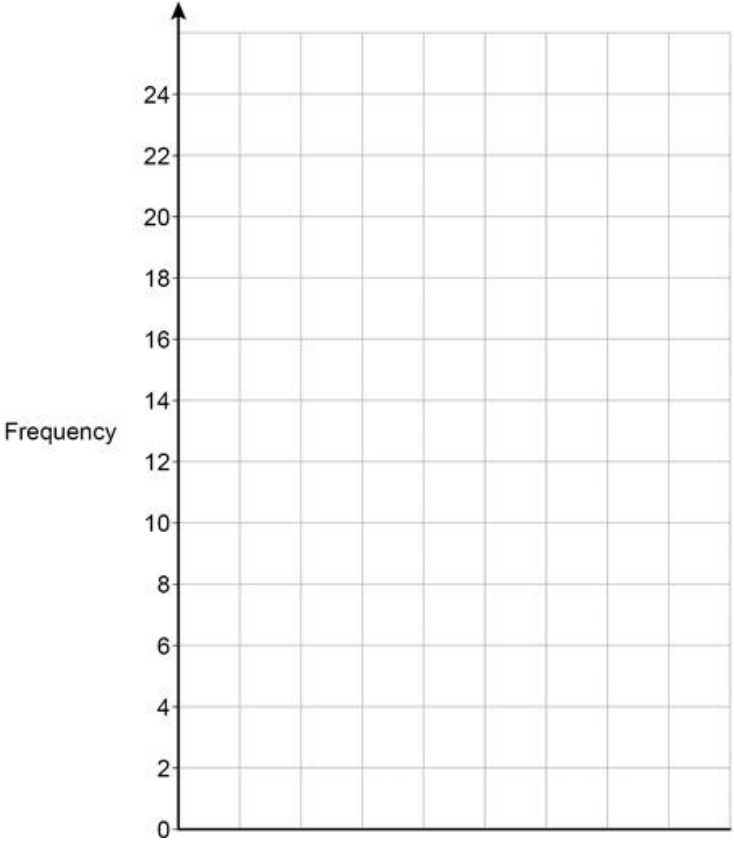
- (a) Shamira says,
“The number of cars is more than the **total** of the other vehicles
because cars have four 5-bar gates and the others only have three 5-bar gates.”
Is she correct?
Tick a box.

Yes ☐ No ☐

Show working to support your answer.

(2)

- (b) On the grid, draw a bar chart to represent the data in the tally chart.



(3)

(Total 5 marks)

Q3.

Billy asked 20 people, "What is your favourite crisp flavour?"

(a) Complete the tally chart to show Billy's results.

Favourite crisp flavour	Tally	Frequency
Plain		12
Cheese and Onion		
Barbecue		3
	Total	20

(2)

(b) Billy uses his tally chart to draw a pictogram.

Complete the pictogram and the key.

Key: represents _____ people

Plain	
Cheese and Onion	
Barbecue	○ ◐

(3)

(Total 5 marks)

For the rest of the questions, you may use a calculator.



Q4.

This table shows information about the weights of 200 rabbits.

Weight, w (grams)	Frequency	Midpoint	
$60 < w \leq 70$	101	65	
$70 < w \leq 80$	64	75	
$80 < w \leq 90$	25	85	
$90 < w \leq 100$	10	95	
	Total = 200		

(a) Tick whether each statement is true or false.

You can use the table to calculate the exact median.

True

☐

False

☐

You can use the table to work out the weight of the heaviest rabbit.

☐
☐

(1)

- (b) Calculate an estimate of the mean weight of the 200 rabbits.

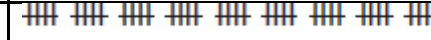
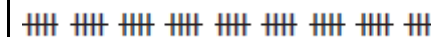
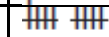
(3)

- (c) Here are the weights, in grams, of 10 more rabbits.

76.2	89.4	93.1	99.7	86.8	79.2	82.6	91.9	88.0	95.4
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Complete the table with:

- tallies for these 10 rabbits
- the frequencies for all 210 rabbits.

Weight, w (grams)	Tally	Frequency
$60 < w \leq 70$		
$70 < w \leq 80$		
$80 < w \leq 90$		
$90 < w \leq 100$		
		Total = 210

- (d) Which **two** of these diagrams could you use to represent this grouped data? Circle your answers.

stem-and-leaf

frequency polygon

scatter graph

histogram

(1)

(Total 7 marks)

Q5.

Here are the makes of phones of 15 students.

Samsung

Blackberry

Nokia

Blackberry

Samsung

iPhone

Samsung

Blackberry

Nokia

Samsung

Samsung

iPhone

Nokia

Samsung

Nokia

Complete the table.

The first row has been done for you.

Phone	Tally	Frequency
Blackberry		3
iPhone		
Nokia		
Samsung		
		Total = 15

(Total 3 marks)

Q6.

Some girls and boys take part in a fitness competition.

(a) Here is a list of the awards for the girls.

gold	bronze	silver	silver	gold
bronze	silver	gold	bronze	silver
silver	silver	silver	gold	gold
gold	silver	gold	bronze	silver

Complete the table.

Girls		
Award	Tally	Frequency
gold		
silver		
bronze		

(3)

(b) The boys win 10 awards in total.

Half of all the awards for girls **and** boys are silver.

Work out the number of silver awards for boys.

(3)

(Total 6 marks)

Q7.

Eva owns a restaurant.

The table shows the number of customers on four days.

	Tuesday	Wednesday	Thursday	Friday
Lunch	25	22	27	31
Dinner	50	48	70	89
Total	75	70	97	120

(a) How many **more** customers in total were there on Friday than on Thursday?

(2)

(b) She keeps a tally of the number of customers who order pudding each day.

Complete the table.

Day	Tally	Frequency
Tuesday	HHH HHH HHH II	17
Wednesday	HHH HHH HHH	
Thursday	HHH HHH HHH HHH IIII	
Friday	HHH HHH HHH HHH HHH HHH	30

(2)

(c) What fraction of **Friday's** customers ordered a pudding?

Give your answer in its simplest form.

(2)

(d) Here is some information about Saturday.

Number of customers	150
Number who order pudding	50

Eva thinks the fraction of customers who ordered puddings on Saturday is greater than on Friday.

Is she correct?

You **must** show your working.

(3)

(Total 9 marks)

Q8.

The number of DVDs bought last month by each girl in a class are shown.

2 0 5 4 3 1 5 2
3 3 4 3 3 2 4 3

(a) Complete the table.

Number of DVDs	Tally	Frequency
0		
1		
2		
3		
4		
5		

(3)

(b) Write down the mode.

(1)

(c) The number of DVDs bought last month by each boy in the class are shown.

Key: ○ represents 2 boys

Number of DVDs	
0	○
1	○ ○ ○
2	○ ○
3	○ ◐
4	◐

The class teacher says



On average, the girls in my class buy more DVDs than the boys.

Compare the modes for the girls and boys to decide if the teacher is correct.

(2)

(Total 6 marks)

Q9.

The favourite computer games for 60 students are shown in the table.

(a) Complete the table.

Game	Tally	Frequency
A		18
B		
C		13
D		15
E		
Total		60

(2)

(b) Which game did exactly one quarter of the students choose?

(2)

(Total 4 marks)

Q10.

A group of friends went on an activity weekend.

They each chose their favourite activity.

Their choices are

Biking Archery Karting Horse riding Biking
 Biking Biking Archery Horse riding Archery
 Karting Karting Archery Biking Biking

(a) Complete the tally and frequency columns in the table.

Activity	Tally	Frequency
Archery		
Biking		
Horse riding		
Karting		

(2)

(b) Draw a pictogram to show the results.

Key:  represents 2 people.

Archery	
Biking	
Horse riding	
Karting	

(2)

(c) Which activity is the mode?

(1)

(d) What fraction of the friends chose Horse riding?

(1)

(Total 6 marks)