

Lesson 3

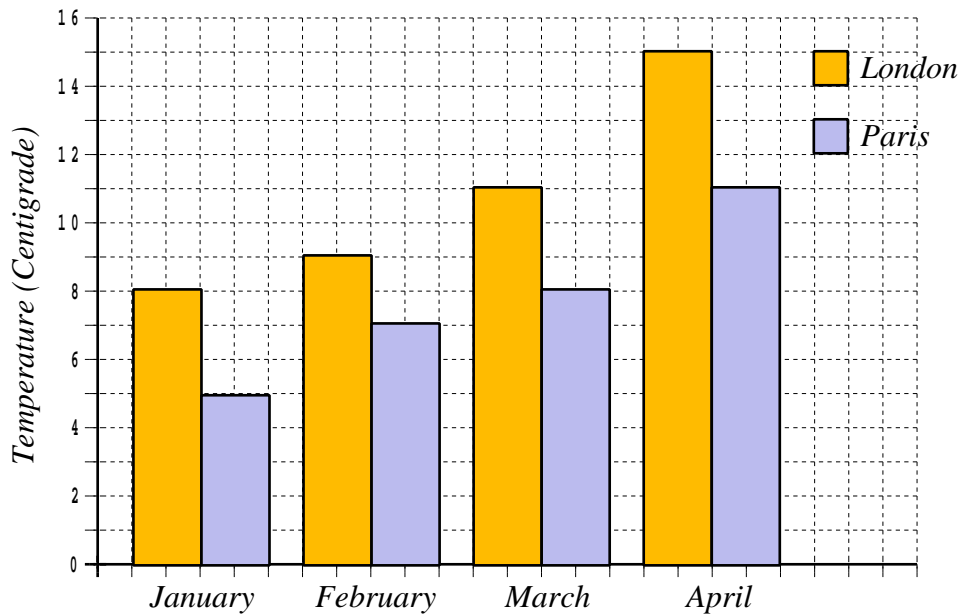
GCSE Mathematics : Year 10 Statistics I : Visualising Data

3.1 Dual Bar Chart

A dual bar chart is an elegant way in which two sets of data are placed side by side. It's a visual means by which the two set of data can be compared.

3.2 Example

The dual bar chart below shows the average daily temperatures for London and Paris over the first four months of 2023 (Source: Holiday-Weather.com).



- (i) Write down the average daily temperature in Paris in March.
[1 mark]
- (ii) How much hotter was the average daily temperature in London in February than that in Paris ?
[1 mark]
- (iii) What was the median average daily temperature in London over the four month period ?
[2 marks]
- (iv) What is the difference in the means of the average daily temperatures in London compared with Paris over the four month period ?
[3 marks]

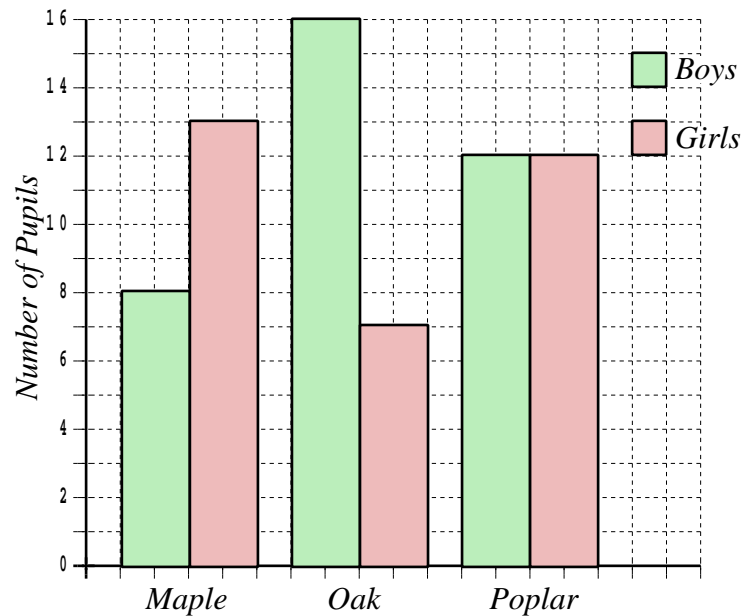
3.3 Exercise

You may use a calculator

Marks Available : 44

Question 1

The dual bar chart shows information about the number of boys and girls in three classes at a school. The classes are called *Maple*, *Oak* and *Poplar*.



(i) How many boys are in *Oak* ?

[1 mark]

(ii) Which class has 12 girls ?

[1 mark]

(iii) Which class has more girls than boys ?

[1 mark]

(iv) Which class has the most pupils ?

[1 mark]

(v) How many more boys than girls are there in *Oak* ?

[1 mark]

(vi) How many girls are there in total in the three classes ?

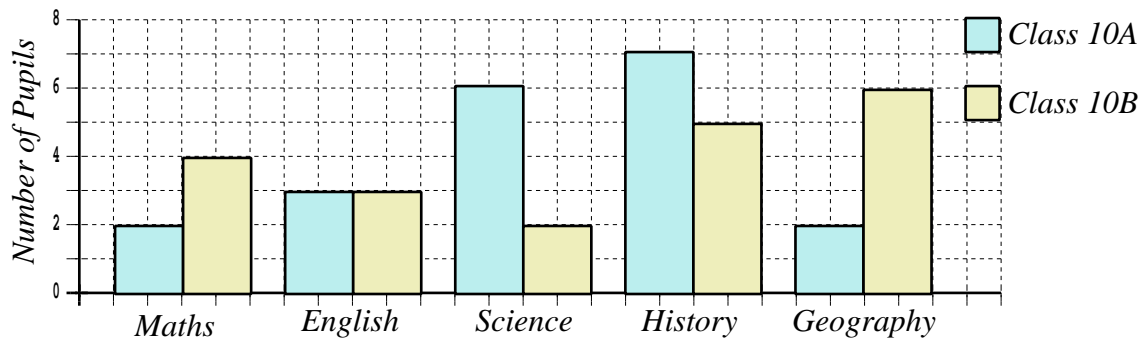
[2 marks]

(vii) What is the average (mean) number of boys in a class ?

[2 mark]

Question 2

Each pupil in class 10A and class 10B were asked what their favourite subject was. The following dual bar chart shows a summary of the results.



(i) Which class has most pupils saying Geography is their favourite subject ?

[1 mark]

(ii) How many more pupils in class 10A liked science than pupils in 10B ?

[1 mark]

(iii) How many pupils in total are there in the two classes ?

[2 marks]

(iv) What percentage of all pupils list History as their favourite subject ?

[3 marks]

(v) What percentage of Class 10A list Maths as their favourite subject ?

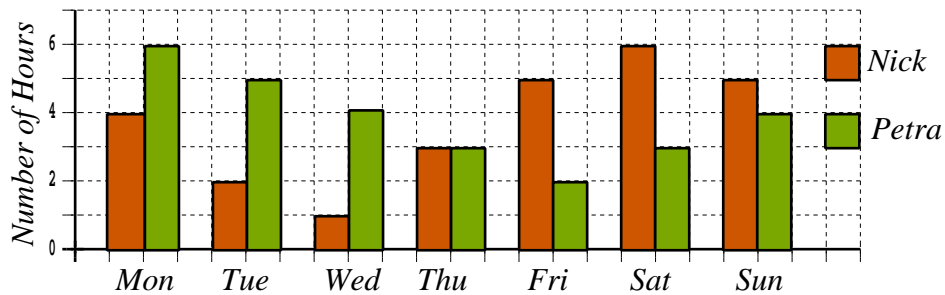
[4 marks]

(vi) In class 10A, 50% of those who said Science was their favourite subject were actually saying that Physics (rather than Biology or Chemistry) were their favourite. How many pupils is this ?

[2 marks]

Question 3

Here is a dual bar chart showing the number of hours that Nick and Petra were watching TV each day last week;



(i) Write down the number of hours of TV that Petra watched on Monday.

[1 mark]

(ii) How many more hours of TV did Petra watch than Nick last week ?

[2 marks]

(iii) Find the median number of hours Nick watched TV last week.

[2 marks]

(iv) Find the inter quartile range of the hours Petra watched TV last week.

[2 marks]

(v) On Thursday and Friday, Nick watched 12 programs altogether.
Work out the average time in minutes, of a programme that he watched.

[2 marks]

Question 4

Mavis recorded the musical instrument played by each of 20 pupils in the school orchestra. The following table shows her results;

Musical Instrument	N° of Pupils
Violin	10
French horn	3
Triangle	2
Cello	5

One of the pupils in the school orchestra is chosen at random.

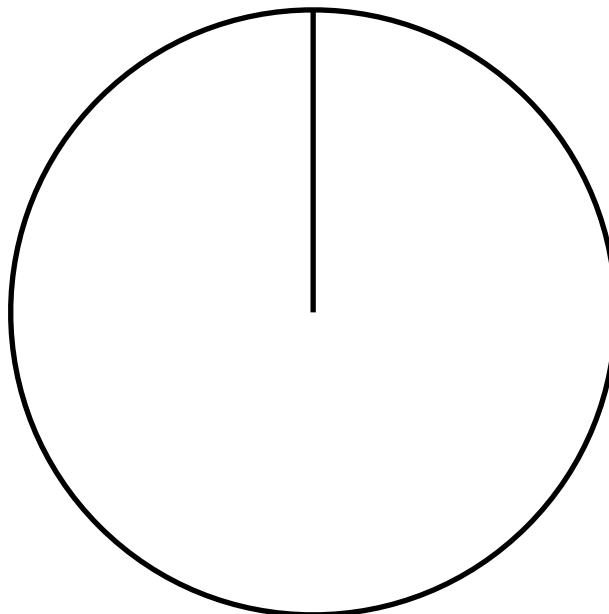
(i) What is the probability that this pupil plays the French horn ?

[2 marks]

(ii) What is the probability that this pupil plays either the Violin or the Cello ?

[3 marks]

(iii) Draw an accurate pie chart to show the information in the table.



[3 marks]

Question 5

If you have your computer with you you may like to do this question online.

Goto <http://www.shodor.org/interactive/activities/MultiBarGraph/>

Two teenagers, Fergus and Ryan, are asked to rate-their-day each day for a week. If they have a bad day they rate it with one star all the way up to 5 stars for an awesomely brilliant day. Here is the data;

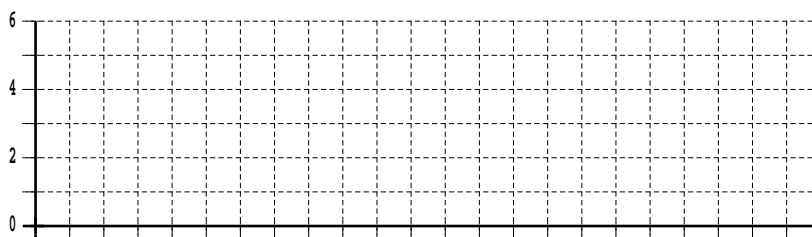
	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Fergus	4	3	3	5	1	4	1
Ryan	1	2	4	5	2	2	5

Graph Title : Star Rating Duel Bar Chart

x-axis : Day of the week

y-axis : Number of stars

Draw a duel bar chart of this information.



[5 marks]