Chapter – 05

Data Handling

Exercises 5.2

Question 1.

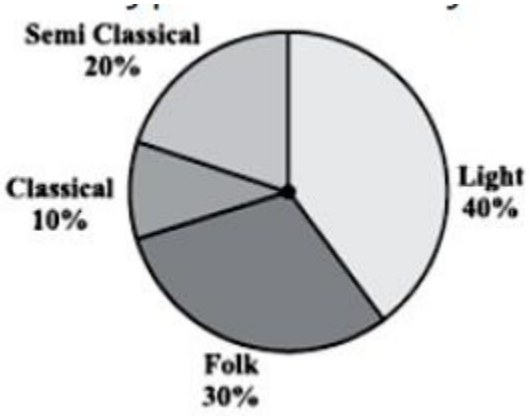
A survey was made to find the type of music that a certain group of young people liked in a city. Adjoining pie chart shows the findings of this survey.

From this pie chart answer the following:

(i) If 20 people liked classical music, how many young people were surveyed?

(ii) Which type of music is liked by the maximum number of people?

(iii) If a cassette company were to make 1000 CD's, how many of each type would they make?



Answer:

(i) As per the pie chart 10% people like classical music.

This 10% shows 20 people.

So,

10 % of total people = 20

Total people $= \frac{20}{10\%} = \frac{20\times100}{10} = 200$

Hence, Total of 200 people were surveyed.

(ii) According to the pie chart 40% people like the light music and it is greater than any other type of music.

So Light music is liked by maximum number of people.

(iii)

Total number of CD's = 1000Number of CD's for different music are as follows:

a) Semi Classical

= 1000 x 20%

= 200

b) Classical music

= 1000 x 10%

= 100

c) Folk music:

= 1000 x 30%

= 300

d) Light music:

= 1000 x 40%

= 400

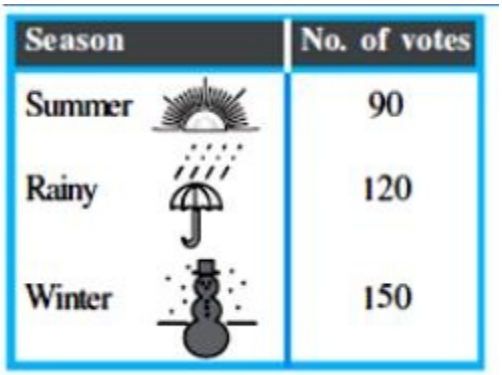
Question 2.

A group of 360 people were asked to vote for their favourite season from the three seasons rainy, winter and summer.

(i) Which season got the most votes?

(ii) Find the central angle of each sector.

(iii) Draw a pie chart to show this information.



Season	No. of votes
Summer	90
Rainy	120
Winter	150

Answer:

(i) Winter got the most number of votes as observed in the graph.

(ii) Central Angle can be calculated as follows:

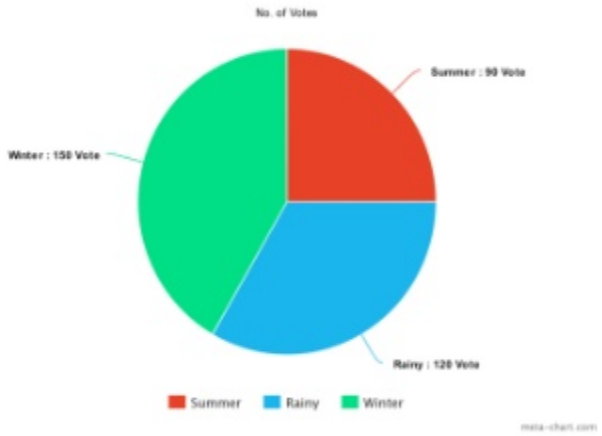
Total number of votes:

90 +120 +150 = 360

Season	Number of votes	In fraction	Central angle
Summer	90	$\frac{90}{360}$	$\frac{90}{360} \times 360 = 90°$

Rainy	120	$\frac{120}{360}$	$\frac{120}{360} \times 360 = 120°$
Winter	150	$\frac{150}{360}$	$\frac{150}{360} \times 360 = 150°$

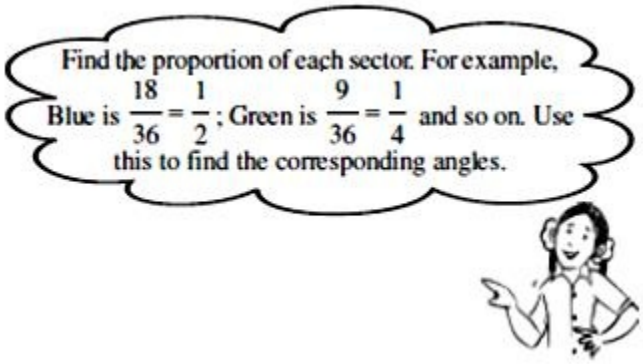
(iii) The pie chart for the given data is:



Question 3.

Draw a pie chart showing the following information. The table shows the colours preferred by a group of people.

Colours	Number of people
Blue	18
Green	9
Red	6
Yellow	3
Total	36



Answer:

The central angle for each angle can be calculated as:

Colours	Number of people	In fraction	Central angle
Blue	18	$\frac{18}{36}$	$\frac{18}{36}\times 360 = 180°$
Green	9	$\frac{9}{36}$	$\frac{9}{36}\times 360 = 90°$
Red	6	$\frac{6}{36}$	$\frac{6}{36}\times 360 = 60°$
Yellow	3	$\frac{3}{36}$	$\frac{3}{36}\times 360 = 30°$

Pie chart of the above data:

Question 4.

The adjoining pie chart gives the marks scored in an examination by a student in Hindi, English, Mathematics, Social Science and Science. If the total marks obtained by the students were 540, answer the following questions.

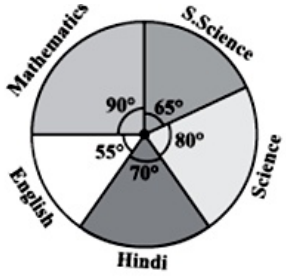
(i) In which subject did the student score 105 marks?

(Hint: for 540 marks, the central angle = 360°. So, for 105 marks, what is the central angle?)

(ii) How many more marks were obtained by the student in Mathematics than in Hindi?

(iii) Examine whether the sum of the marks obtained in Social Science and Mathematics is more than that in Science and Hindi.

(Hint: Just study the central angles).



Answer:

(i) Total marks obtained by the student are 540.

Hence, 540 marks represents 360°

Now,

Central angle for 105 marks =

Central Angle for 105 marks $= \frac{105}{\text{Total Marks}} \times 360°$

Central Angle for 105 marks $= \frac{105}{540} \times 360°$

Central Angle for 105 marks = 70°

Hindi has its central angle as 70°

Hence, students score 105 marks in Hindi.

(ii) Angle made by Mathematics = 90°

Marks obtained by student in Mathematics $= \frac{90°}{360°} \times 540$

Marks obtained by student in Mathematics $= 135$ marks

Angle made by = 70°

Marks obtained by student in Hindi $= \frac{70°}{360°} \times 540$

Marks obtained by student in Hindi $= 105$ marks

So the difference of marks $= 135 - 105 = 30$ marks

(iii)

Total of Angles of Social Science and Math = 65°+90°=155°

Total of Angles of Science and Hindi = 80°+70°=150°

It is clear that sum of marks obtained in Social Science and Math is more than that in Science and Hindi, So Answer is Yes!

Question 5.

The number of students in a hostel, speaking different languages is given below. Display the data in a pie chart.

Language	Hindi	English	Marathi	Tamil	Bengali	Total
Number of students	40	12	9	7	4	72

Answer:

The given data can be represented in the form of a pie chart as:

We'll find the Central angles for respective languages in the Pi Chart.

Language	Hindi	English	Marathi	Tamil	Bengali	Total
Number of students	40	12	9	7	4	72
Central Angle	$\frac{40}{72} \times 360 = 200$	$\frac{12}{72} \times 360 = 60°$	$\frac{9}{72} \times 360 = 45°$	$\frac{7}{72} \times 360 = 35°$	$\frac{4}{72} \times 360 = 20°$