



CLASS VIII: Maths
Chapter 4: Data Handling

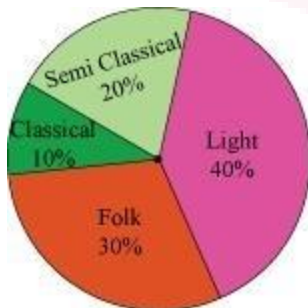
Questions and Solutions | Exercise 4.1 - NCERT Books

Q1 :

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 -

- If 20 people liked classical music, how many young people were surveyed
- Which type of music is liked by the maximum number of people
- If a cassette company were to make 1000 CD's, how many of each type would they make



Answer :

- (i) Number of people who like classical music = 10%

This 10% represents 20 people.

$$100 \% \text{ represents } = \frac{20 \times 100}{10} = 200 \text{ people}$$

Therefore, 200 young people were surveyed.

- (ii) From the pie chart, it can be easily observed that the light music is represented by the maximum part of the pie chart (i.e., 40 %). Hence, most of the people like light music.



(iii) Number of CD's of classical music = 10% of 1000

$$\begin{aligned} &= \frac{10}{100} \times 1000 \\ &= 100 \end{aligned}$$

Number of CD's of semi-classical music = 20% of 1000

$$\begin{aligned} &= \frac{20}{100} \times 1000 \\ &= 200 \end{aligned}$$

Number of CD's of folk music = 30% of 1000

$$\begin{aligned} &= \frac{30}{100} \times 1000 \\ &= 300 \end{aligned}$$

Number of cassettes of light music = 40% of 1000

$$\begin{aligned} &= \frac{40}{100} \times 1000 \\ &= 400 \end{aligned}$$

Q2 :

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	Number of votes
Summer	90
Rainy	120
Winter	150

Answer :



(i) Winter

(ii) Total number of votes = $90 + 120 + 150 = 360$

Season	Number of votes	In fraction	Central angle
Summer	90	$\frac{90}{360}$	$\frac{90}{360} \times 360^\circ = 90^\circ$
Rainy	120	$\frac{120}{360}$	$\frac{120}{360} \times 360^\circ = 120^\circ$
Winter	150	$\frac{150}{360}$	$\frac{150}{360} \times 360^\circ = 150^\circ$

(iii) A pie chart can be drawn for the above data as follows.



Q3 :

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

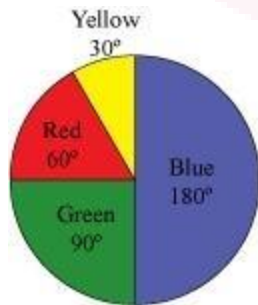
Answer :

The central angle for each colour can be calculated as follows.

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

Yellow	3	$\frac{3}{36}$	$\frac{3}{36} \times 360^\circ = 30^\circ$
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The pie chart of the above data is as follows.



Q4 :

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 represent 360° . The central angle for 105 marks has to be calculated.

$$\text{Central angle for 105 marks} = \frac{105}{540} \times 360^\circ = 70^\circ$$

Hindi is the subject having its central angle as 70° .

Therefore, the student scored 105 marks in Hindi.

(ii) Difference between the central angles of Mathematics and Hindi

$$= 90^\circ - 70^\circ = 20^\circ$$

$$\text{Marks for } 20^\circ \text{ central angle} = \frac{20^\circ}{360^\circ} \times 540 = 30$$

There is a difference of 30 marks between the score obtained in Mathematics and Hindi.

Therefore, 30 more marks were obtained by the student in Mathematics than in Hindi.

(iii) Sum of central angles of Social Science and Mathematics

$$= 90^\circ + 65^\circ = 155^\circ$$

$$\text{Sum of central angles of Science and Hindi} = 80^\circ + 70^\circ = 150^\circ$$

The sum of the central angles for Social Science and Mathematics is more than that of Science and Hindi. Therefore, the student scored more in Social Science and Mathematics than in Science and Hindi.

Q5 :

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 central angle for each subject can be calculated as follows.

Language	Number of students	In fraction	Central angle
Hindi	40	$\frac{40}{72}$	$\frac{40}{72} \times 360^\circ = 200^\circ$
English	12	$\frac{12}{72}$	$\frac{12}{72} \times 360^\circ = 60^\circ$
Marathi	9	$\frac{9}{72}$	$\frac{9}{72} \times 360^\circ = 45^\circ$
Tamil	7	$\frac{7}{72}$	$\frac{7}{72} \times 360^\circ = 35^\circ$
Bengali	4	$\frac{4}{72}$	$\frac{4}{72} \times 360^\circ = 20^\circ$

A pie chart of the above data is as follows.

