NCERT solutions for class 8 maths chapter 5 Data Handling Ex-5.2

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:

(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?

Ans. (i) 10% represents 100 people.

Therefore 20% represents = $\frac{100 \times 20}{10}$

= 200 people

Hence, 200 people were surveyed.

(ii) Light music is liked by the maximum number of people.

(iii) CD's of classical music = $\frac{10 \times 1000}{100}$

= 100

CD's of semi-classical music = $\frac{20 \times 1000}{100}$ = 200

CD's of light music = $\frac{40 \times 1000}{100}$ = 400

CD's of folk music = $\frac{30 \times 1000}{100}$ = 300

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

Ans. (i) Winter season got the most votes.

(ii) Central angle of summer season =

$$\frac{90^\circ \times 360^\circ}{360^\circ} = 90^\circ$$

Central angle of rainy season

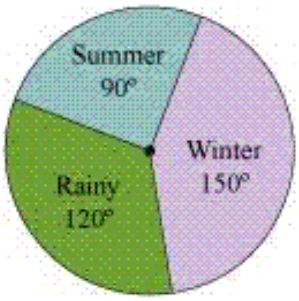
$$= \frac{120^\circ \times 360^\circ}{360^\circ} = 120^\circ$$

Central angle of winter season

$$= \frac{150^\circ \times 360^\circ}{360^\circ} = 150^\circ$$

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)



Q3. Draw a pie chart showing the following information. The table shows the colours preferred by a group of people.

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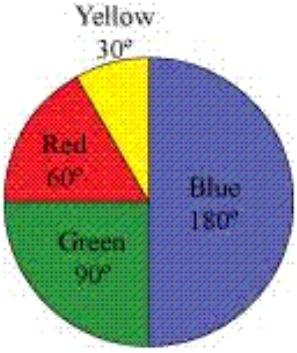
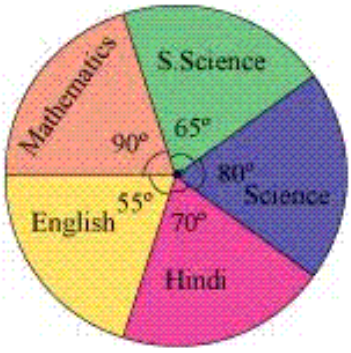
Colours	Number of people
Blue	18
Green	9
Red	6
Yellow	3
Total	**36**

Ans. Here, central angle = 360° and total number of people = 36

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	$\frac{3}{36}$	$\frac{3}{36}\times 360^\circ = 30^\circ$



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)

Ans.

Subject	Central Angle	Marks obtained
Mathematics	90°	$\frac{90^\circ}{360^\circ} \times 540 = 135$
Social Science	65°	$\frac{65^\circ}{360^\circ} \times 540 = 97.5$
Science	80°	$\frac{80^\circ}{360^\circ} \times 540 = 120$
Hindi	70°	$\frac{70^\circ}{360^\circ} \times 540 = 105$
English	55°	$\frac{55^\circ}{360^\circ} \times 540 = 82.5$

(i) The student scored 105 marks in Hindi.

(ii) Marks obtained in Mathematics = 135

Marks obtained in Hindi = 105

Difference = 135 – 105 = 30

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

(iii) The sum of marks in Social Science and Mathematics = 97.5 + 135 = 232.5

The sum of marks in Science and Hindi = 120 + 105 = 225

Yes, the sum of the marks in Social Science and Mathematics is more than that in Science and Hindi.

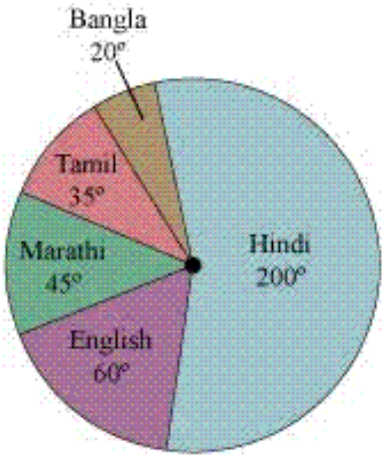
Q5. The number of students in a hostel, speaking different languages is given below.

Display the data in a pie chart.

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

Ans.

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	$\frac{4}{72}$	$\frac{4}{72} \times 360^\circ = 20^\circ$



Pie chart at above given data is as follows.

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