



Data Representation

1. Drawing pie charts based on the given data.

The table below shows the information about the aesthetic subjects of students studying in grade 10 in a school. Let's draw a pie chart to show that information.

Subject	No. of Students
Arts	20
Dancing	15
Music	25
Total Students	60

- First, let's find the angle at the centre for each subject.
- Let us show the total 60 students from 360° around the center of that circle.

$$60 \text{ students} \rightarrow 360^{\circ}$$

$$1 \text{ student} \rightarrow \frac{360^{\circ}}{60} = 360^{\circ} \times \frac{1}{60}$$

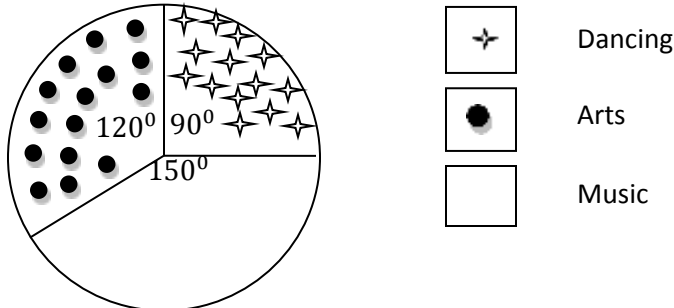
$$2 \text{ students} \rightarrow 360^{\circ} \times \frac{2}{60}$$

Therefore,

- Angle at the centre showing 20 students who like arts = $360^{\circ} \times \frac{20}{60} = 120^{\circ}$
- Angle at the centre showing 15 students who like dancing = $360^{\circ} \times \frac{15}{60} = 90^{\circ}$
- Angle at the centre for 25 students who like music = $360^{\circ} \times \frac{25}{60} = 150^{\circ}$
- (Note: It is not necessary to find the angle at the centre of the last subject. when marked the angles at the centre of the first two subjects the

remaining angle is equal to the value of the angle at the centre of the third subject)

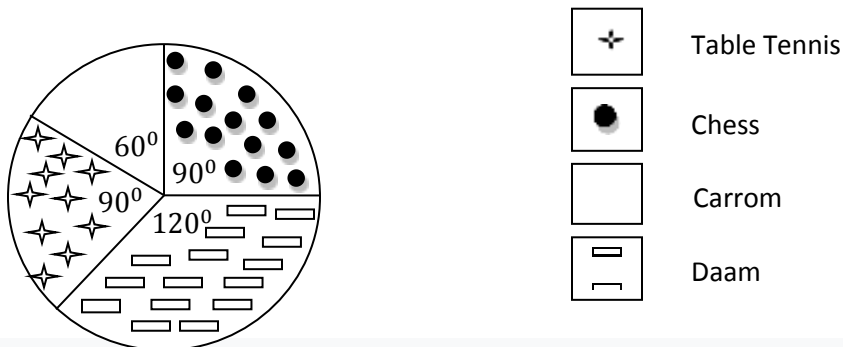
- All these facts can be illustrated by a chart as follows.



Exercise 11. 1 of mathematics text book

2. Obtaining information from pie charts.

The chart below shows the data collected from 30 Grade 10 students asking about their preferred sport.



We will try to answer the following questions posed by this pie chart

- What is the most favorite sport?

The largest segment of circle 120° on the pie chart represents the number of students who like the Daam game. That is, the highest number of students prefer Daam.

- What is the least favorite sport of children?

The smallest segment of circle 60° in the pie chart represents the number of students who like the game of carrom. That is, the least number of students like the carrom game.

iii. What are the sports that a similar number of students like?

There are equal segments of the circle 90° . Those segments represent the number of students who like chess and table tennis

iv. What is the angle at the centre shown by students who like carrom? 60°

v. Indicate the number of students who like carrom as a fraction of the total number of students

Angle at the centre representing the number of students who like the game of carrom = 60°

Angle representing the total number of students = 360°

Number of students who like carrom as half of the total number of students

$$= \frac{60^\circ}{360^\circ} = \frac{1}{6}$$

vi. How many students like carrom?

$$\text{Number of students who like carrom} = 30 \times \frac{1}{6} = 5$$

vii. How many students like daam?

Angle at the centre indicating the number of students interested in daam = 120°

$$\text{Number of students who like daam} = 30 \times \frac{120^\circ}{360^\circ} = 30 \times \frac{1}{3} = 10$$