Constructing a Pie Chart for a Given Data

A. Choose the correct answer:
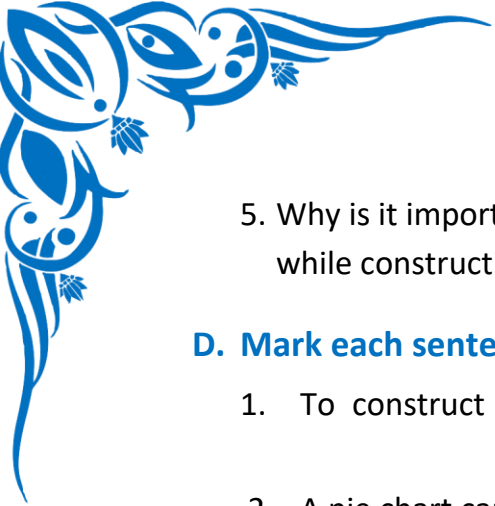
1. The first step in constructing a pie chart is.
a) Draw a circle
b) Find the central angles
c) Color the sectors
d) Find the mean

2. If a value represents $\frac{1}{6}$ of the total data, its corresponding central angle is.
a) 30°
b) 45°
c) 60°
d) 90°

3. When constructing a pie chart, the total sum of all central angles should be.
a) 180°
b) 270°
c) 360°
d) 90°

4. To convert a value into a central angle, we multiply its fraction by.
a) 100
b) 180
c) 360
d) 90

5. In a pie chart, larger data values will have.
a) smaller sectors
b) Larger sectors
c) Equal sectors
d) No sectors

B. Write the Missing Terms to Complete the Sentences:

1. A pie chart is constructed by converting the given data into _____.

2. The sum of all sectors' angles in a pie chart must be _____ degrees.

3. Each category's fraction is multiplied by _____ to get the central angle.

4. A pie chart helps in visually comparing parts to a _____.

5. The instrument used to draw the circle for a pie chart is called a _____.

C. Figure out the answers to these questions:

1. Construct a pie chart for the following data Games Cricket 20 students, Football 15 students, Badminton 5 students, Total 40 students.

2. Find the central angle for each category if a company's sales are split as Electronics 50%, Clothing 30%, Food 20%.

3. How would you construct a pie chart if the number of items and their total are not provided directly.

4. If 25 students like Math out of 100 students, what is the central angle for Math in the pie chart.

5. Why is it important to ensure that the total of all central angles adds up to 360° while constructing a pie chart.

D. Mark each sentence with a True (✔) or False (✗):

1. To construct a pie chart, data must be represented as percentages first _____

2. A pie chart can have sectors that add up to more than 360° _____

3. The size of a sector in a pie chart is proportional to the quantity it represents ___

4. Only fractions and percentages are used to find central angles in pie charts ___

5. A pie chart can be drawn without using a compass. ___

E. Challenge yourself with these questions:

1. Write the steps involved in constructing a pie chart from raw data.

2. If $\frac{3}{8}$ of students prefer Science, what is the central angle representing Science in the pie chart.

3. How do you check your work after constructing a pie chart?

4. A survey shows 40 students like swimming, 30 like running, and 30 like cycling. Construct the pie chart.

5. What mistake can occur if the central angles are not calculated accurately while drawing a pie chart?