

SATISH CHANDRA MEMORIAL SCHOOL

CASE STUDY WORKSHEET

TOPICS COVERED:

- Medians & Altitudes of a triangle
- Exterior angle property and Angle sum property of triangle

CASE STUDY: 01



A carpenter designed a triangular table that had one leg for Arjun's cabin. He used a special point of the table, due to which the table was balanced and stable. The two sides of the table were 10 m in length and the third side was of 12 m in length. Arjun was used to keep a flower vase at the point on the table, below which the stand was. Arjun also drew a black line from the corner where the two equal sides meet, to the middle point of the third side. He observed that, the black line exactly divided the table into two equal areas.

Q1. Which type of triangle was represented by the table?

Q2. The point where Arjun used to keep his flower vase, what is it called ?

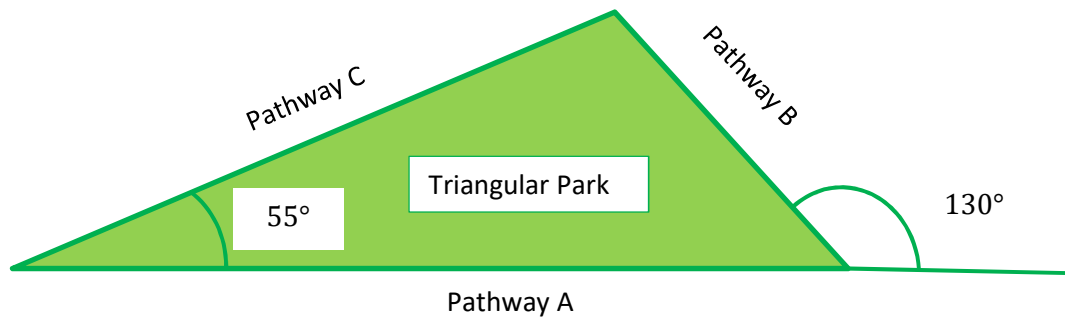
Q3. What did the black line represent for the triangular table?

Q4. What was the angle between the black line and the unequal side of the triangular table?

Q5. Find the length of the black line.

Q6. Calculate the distance of the flower vase from the intersecting point of the two equal sides of the triangular table.

CASE STUDY: 02



A Construction company is designing a triangular park with three pathways meeting at different angles. The park is located in a city where urban planning requires precise angle measurements to ensure safety and aesthetic appeal.

Q1. At one corner of the triangular park, Pathway A intersects with Pathway B, forming an exterior angle of 130° . If the interior angle of the opposite corner (where Pathway A and Pathway C meets) is 55° , find the interior angle at the third corner (where Pathway B meets Pathway C).

Q2. The designers decide to install a sculpture of Netaji Subhas Chandra Bose at the corner where Pathway B meets Pathway C. Find the exterior angle of this corner.

Q3. Before constructing the park, engineers have decided that the interior angles of the triangular park would be 75° , 55° and 60° . But with these measurements, they fail to make the park triangular in shape. According to you, what is their mistake?

Q4. If an engineer decides to make the interior angle of the corner where Pathway C and Pathway B meet, 120° and the interior angles at other two corners in a ratio of 3:2. Find the measure of the other two interior angles at those two corners of the triangular park.