

Activity 16

OBJECTIVE

To verify exterior angle property of a triangle.

MATERIAL REQUIRED

Hardboard sheet, adhesive, glazed papers, sketch pens/pencils, drawing sheet, geometry box, tracing paper, cutter, etc.

METHOD OF CONSTRUCTION

1. Take a hardboard sheet of a convenient size and paste a white paper on it.
2. Cut out a triangle from a drawing sheet/glazed paper and name it as $\triangle ABC$ and paste it on the hardboard, as shown in Fig. 1.
3. Produce the side BC of the triangle to a point D as shown in Fig. 2.

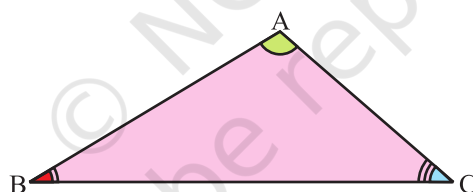


Fig. 1

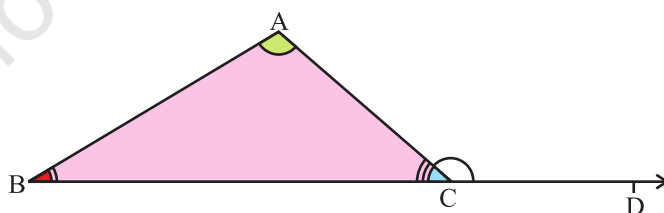


Fig. 2

4. Cut out the angles from the drawing sheet equal to $\angle A$ and $\angle B$ using a tracing paper [see Fig. 3].
5. Arrange the two cutout angles as shown in Fig. 4.

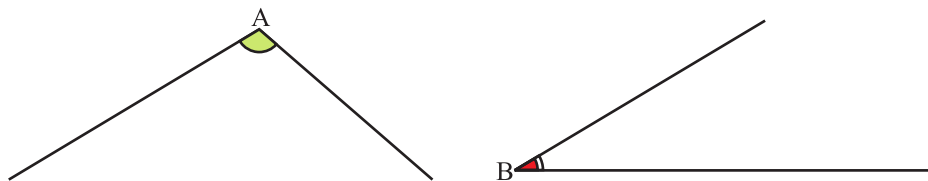


Fig. 3

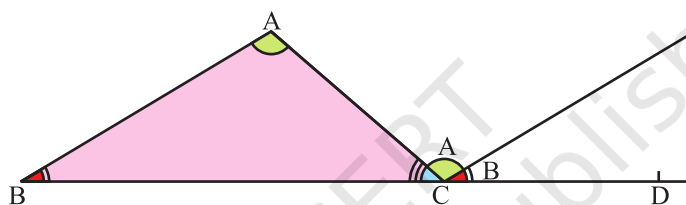


Fig. 4

DEMONSTRATION

$\angle ACD$ is an exterior angle.

$\angle A$ and $\angle B$ are its two interior opposite angles.

$\angle A$ and $\angle B$ in Fig. 4 are adjacent angles.

From the Fig. 4, $\angle ACD = \angle A + \angle B$.

OBSERVATION

Measure of $\angle A =$ _____, Measure of $\angle B =$ _____,

Sum ($\angle A + \angle B$) = _____, Measure of $\angle ACD =$ _____.

Therefore, $\angle ACD = \angle A + \angle B$.

APPLICATION

This property is useful in solving many geometrical problems.