

Activity -2

(13/6/13)

Basic Proportionality Theorem for a Triangle

Objective

To verify the Basic Proportionality Theorem using parallel line board and triangle cut-outs.

Materials required

coloured paper,
pair of scissors,
parallel line board,
ruler,
sketch pens.

Basic Proportionality Theorem

If a line is drawn parallel to one side of a triangle to intersect the other two sides in distinct points, the other two sides are divided in the same ratio.

Pre-requisite knowledge

Drawing parallel lines on a rectangular sheet of paper.

Procedure

1. Cut three different triangles from a coloured paper. Name them as ΔABC , ΔPQR and ΔDEF .
2. Take the parallel line board (a board on which parallel lines are drawn) as shown in Fig 4 (a). (Note: Students can make the parallel line board, using the techniques given in class IX laboratory manual.)
3. Place ΔABC on the board such that any one side of the triangle is placed on one of the lines of the board as shown in Fig 4 (b). (It would be preferable to place the triangle on the lowermost or uppermost line.)
4. Mark the points P_1, P_2, P_3, P_4 on ΔABC as shown in Fig 4(b).
Join P_1P_2 and P_3P_4 .
 $P_1P_2 \parallel BC$ and $P_3P_4 \parallel BC$
5. Note the following by measuring the lengths of the respective segments using a ruler.

Ratios	Value
$\frac{AP_1}{P_1B}$	
$\frac{AP_2}{P_2C}$	
$\frac{AP_3}{P_3B}$	
$\frac{AP_4}{P_4C}$	

6. Repeat the experiment for ΔDEF and ΔPQR .