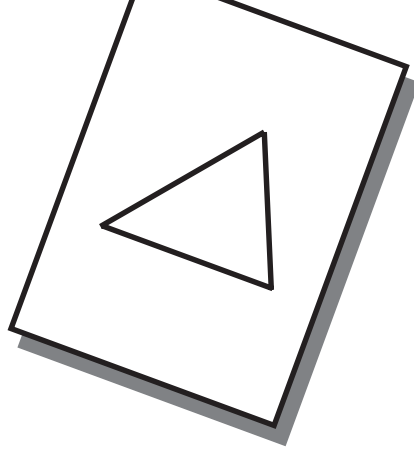# Mid Point Theorem

Objective
To verify the mid point theorem for a triangle, using paper cutting and pasting.

Pre-requisite knowledge
Two lines are parallel if for a transversal cutting them, the corresponding angles are equal.

Material Required
Coloured paper, a pair of scissors, gum.

Procedure
From a sheet of paper, cut a triangle ABC. Find the mid points P and Q of AB and AC respectively by paper folding. Join P and Q by folding and making a crease PQ. [Fig 7 (a)] Cut APQ. Superimpose AQ over QC so that QP falls along CB as shown in Fig 7 (b).

Observations

1. Angle APQ is now renamed as (A)(P)(Q). A falls on Q since Q is the mid point of AC.

2. Triangle AQP is superimposed on triangle QCB and the two angles are seen to be equal. They are the corresponding angles made on PQ and BC by AC.

3. Therefore, PQ is parallel to BC.

4. Also (P) is seen to be the mid point of BC by paper folding method already described.

Learning Outcome
Line segment joining the mid points of any two sides of a triangle is parallel to the third side and is equal to half of it.

Remark
The exercise can be tried for any two sides of the given triangle, and for different types of triangles (acute, obtuse and right angle triangles).
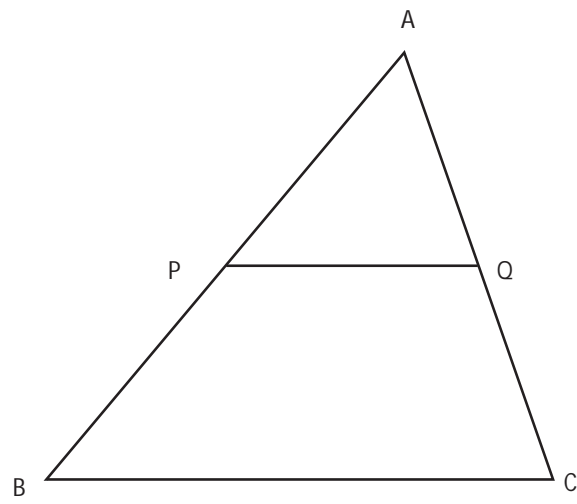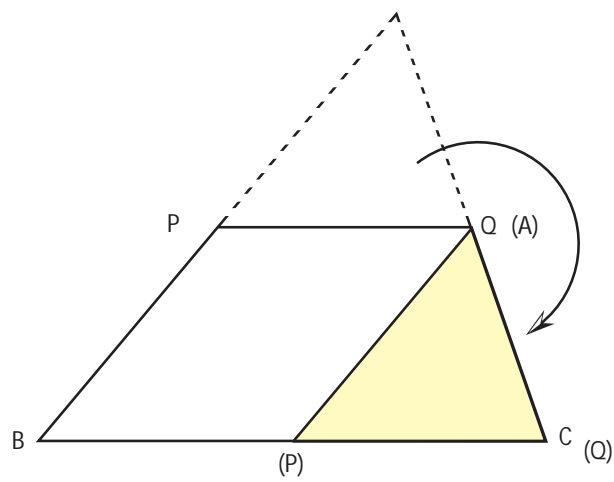
Fig 7(a)

Fig 7(b)