**MATHEMATICS PROJECT**

**CLASS: 9**

**TOPIC: MID POINT THEOREM**

**STATEMENT:**  The straight line joining the mid points of any two sides of a triangle is parallel to the third side and is equal to half of it.

**OBJECTIVE:** To verify the above theorem by activity.

**PRE-REQUISITE KNOWLEDGE:** If a transversal cuts two straight lines and if a pair of corresponding angles are equal, then the straight lines are parallel.

**MATERIALS REQUIRED:**

1. Geometry box
2. Practical workbook
3. Sheets of white paper.
4. Coloured ball point pens.
5. Scissors
6. Scale
7. Sketch pen
8. Adhesives or glue sticks
9. Tracing papers – 2

**PROCEDURE:**

1. Draw any triangle ABC, where AB = 5 cm, BC = 7 cm and CA = 6 cm, on a white sheet paper and mark the mid-points D, E and F of the sides AB, AC and BC.
2. Fold the triangle along the mid-points of the two adjacent sides to form a crease in each of the cases.
3. Mark the angles 1, 2, 3, 4 and 5 as shown in the figure.



1. Draw horizontal lines in the triangle ABC by pink ball point pen.



1. Make a replica of triangle ADE on a tracing paper and draw vertical lines with blue ball point pens as shown in the diagram.



1. Paste/superimpose the triangle ADE on the triangle EFC as shown in the figure.



**RESULT:**

We observe that the triangle ADE exactly covers the triangle EFC and note that the vertex A of $∆ADE$ falls on the vertex E of $∆EFC,$ the vertex D falls on the vertex F and the vertex E falls on C.

It also follows that $∠5= ∠3 ⇒DC ∥BC$ and DE = $\frac{1}{2}$BC. Hence the straight line joining the mid-points of any two sides of a triangle is parallel to the third side and is equal to half of it.

**LAST DATE OF SUBMISSION OF PROJECT: 28th November, 2014**