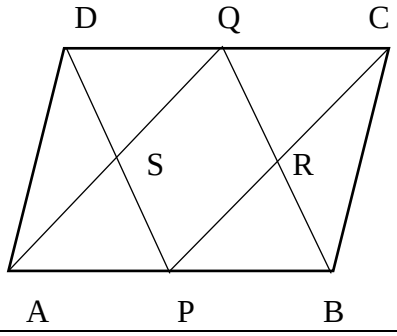
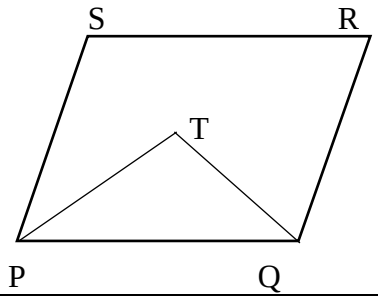
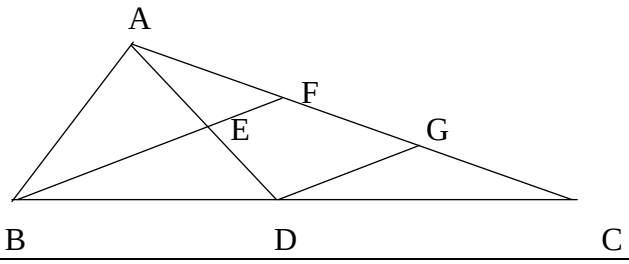
INDIAN SCHOOL DARSAIT
DEPARTMENT OF MATHEMATICS

Subject : Mathematics	Topic : Quadrilaterals	Date of Worksheet : 9-11-2017
Worksheet no: 9		
Resource Person: Mrs. Anu Likson		Date : _____
Name of the Student :_____	Class &Division : IX	Roll Number : __

	Section A (Basic Skill)	**Marks**
	Simplify	
1.	Find $\frac{3}{5}$ of 125.	1
2.	Find $\frac{1}{4}$ of $9\frac{1}{3}$.	1
3.	Find: $\frac{3}{5}$ X $3\frac{2}{9}$	1
4.	Find $\frac{16}{17}$ X $\frac{34}{32}$	1
5.	Find which is greater: $\frac{1}{5}$ of $\frac{3}{7}$ or $\frac{1}{8}$ of $\frac{8}{5}$	1
	Section B Answer the following questions:	
1.	Two opposite angles of a parallelogram are $(3x-2)^0$ and $(63-2x)^0$. Find all the angles of parallelogram.	2
2.	If angles of a quadrilateral are in the ratio 1:2:3:4. Find the measure of all the angles of a quadrilateral.	2
3.	Two parallel lines l and m are intersected by a transversal t. Show that the quadrilateral formed by bisectors of interior angles is a rectangle.	2
4.	In a parallelogram, show that the angle bisectors of two adjacent angles intersect at right angles.	2
5.	Show that if the diagonals of a quadrilateral bisect each other at right angles , then it is a rhombus.	2
6.	Two parallel lines l and m are intersected by a transversal p. Show that the quadrilateral formed by the bisectors of interior angles is a parallelogram.	3
7.	ABCD is a parallelogram. If E is midpoint of BC and AE is the bisector of $\angle$A, prove that AB = $\frac{1}{2}$ AD.	3

8.	In given figure, ABCD is a parallelogram. P, Q are the midpoints of AB and DC. Show that (i) APCQ is a parallelogram (ii) DPBQ is a parallelogram (iii) PSQR is a parallelogram  	3
9.	In the given figure, PQRS is a parallelogram in which PT and QT are angle bisectors of $\angle P$ and $\angle Q$ respectively. Find the value of $\angle PTQ$.  	3
10.	D, E and F are the midpoints of sides PQ, QR and RP respectively of an equilateral triangle PQR. Show that triangle DEF is also an equilateral triangle.	3
	Section C	
1.	Prove that the diagonals of a square are equal and perpendicular to each other.	4
2.	In given figure AD is the median of Δ ABC . E is the midpoint of AD. DG is parallel to BF. Prove that AC = 3 AE.  	4
3.	ABCD is a rhombus and P, Q , R and S are the midpoints of AB, BC, CD and DA respectively. Prove that PQRS is a rectangle.	4
4.	P is the midpoint of side AB of a parallelogram ABCD. A line through B parallel to PD meets DC at Q and AD produced at R. Prove that (i) AR = 2 BC (ii) BR = 2 BQ	4
5.	In a triangle ABC, $\angle A=50^0$, $\angle B= 60^0$ and $\angle C= 70^0$. Find the measures of the angles of the triangle formed by joining the midpoints of the sides of this triangle	4