INDIAN SCHOOL DARSAIT
DEPARTMENT OF MATHEMATICS
WORKSHEET # 12

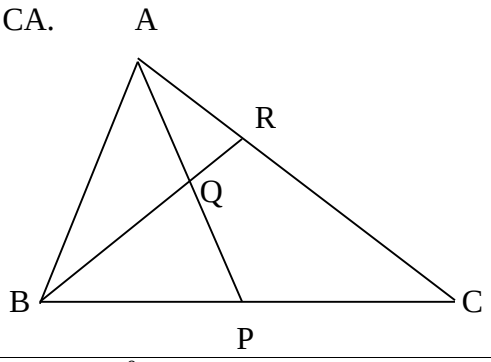
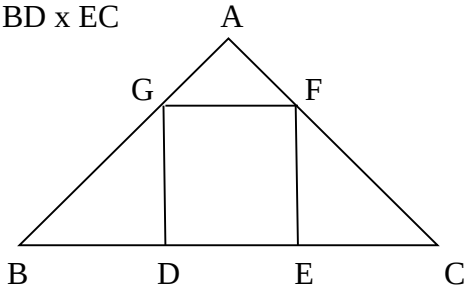
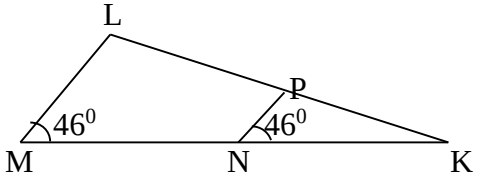
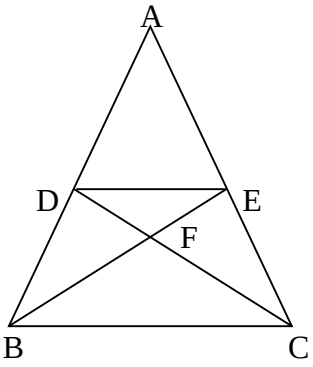
Subject : MATHEMATICS Topic : TRIANGLES Date of Worksheet : 10/10/2017

Resource Person: Mrs. Indu .P Date of submission : 17/10/2017

Name of the Student _____ Class &Division:_____ Roll Number : ___

S.No.	Section A-[Basic skills]
1 .	$\frac{5}{4} = \frac{Y}{20}$ then find the value of Y.
2.	234.56 + 45.7 =
3.	Find the square root of 2025.
4.	25.6 x 500 =
5.	4509 ÷ 30 =

Sl.N0.	Section B -[Chapter based questions]	Marks
1.	A vertical stick 20m long casts a shadow 10m long on the ground. At the same time, a tower casts a shadow 50m long on the ground. Then find the height of the tower.	1
2.	If D,E,F are the midpoints of sides BC , CA and AB respectively of ΔABC , then find the ratio of the areas of triangles DEF and ABC.	1
3.	In ΔABC , AB = AC and D is a point of side AC such that BC^2 = AC x CD . Prove that BD = BC.	2
4.	In ΔABC , AD is perpendicular to BC . Prove that i) $AB^2 + CD^2 = AC^2 + BD^2$ ii)$AB^2 - BD^2 = AC^2 - CD^2$	3
5.	If AD and PM are medians of triangles ABC and PQR respectively where ΔABC ~ΔPQR , prove that $\frac{AB}{PQ} = \frac{AD}{PM}$	3
6.	In a trapezium ABCD , O is the point of intersection of AC and BD , AB|| CD and AB = 2CD.If ar(ΔAOB) = 84cm^2, find the area of ΔCOD.	3
7.	Let X be any point on the side BC of a triangle ABC.If XM , XN are drawn parallel to BA and CA meeting CA , BA in M , N respectively ; MN meets BC produced in T , prove that TX^2 = TB x TC	4

8.	In figure , P is the midpoint of BC and Q is the midpoint of AP .If BQ when produced meets AC at R , prove that RA = $\frac{1}{3}$CA. 	4
9.	In figure , DEFG is a square and $\angle BAC = 90^0$. Prove that i) ΔAGF~ ΔDBG ii)ΔAGF~ ΔEFC iii)ΔDBG ~ ΔEFC iv)DE^2 = BD x EC 	4
	SECTION C [HOT QUESTIONS]	
10.	In the figure , express x in terms of a,b and c. ML = a , NP = x MN = b and NK = c 	2
11.	In figure , DE ‖ BC , and AD : DB = 5:4 . Find $\frac{\text{Area } (\Delta DEF)}{\text{Area } (\Delta CFB)}$ 	4
12.	Two poles of height a meters and b meters are p meters apart. Prove that the height of the intersection of the lines joining the top of each pole to the foot of the opposite pole is given by $\frac{ab}{a+b}$ meters.	4
13.	Equilateral triangles are drawn on the sides of a right triangle.Show that the area of the triangle on the hypotenuse is equal to the sum of the areas of triangles on the other two sides.	3