INDIAN SCHOOL DARSAIT
DEPARTMENT OF MATHEMATICS

Subject : MATHEMATICS Topic : TRIANGLES Date of Worksheet :26/08/2019
Worksheet No: 6

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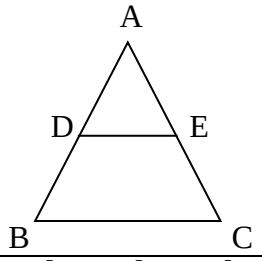
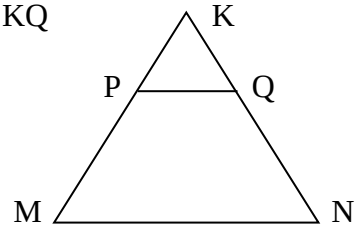
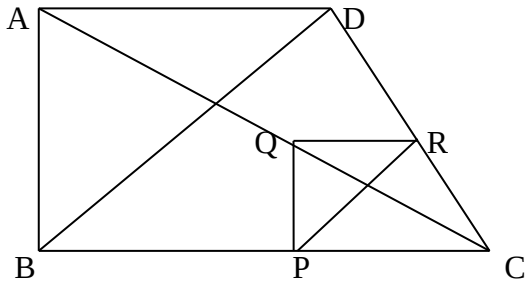
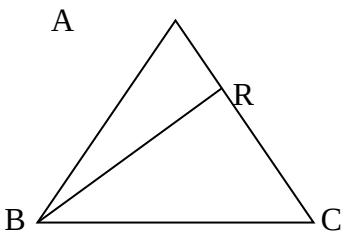
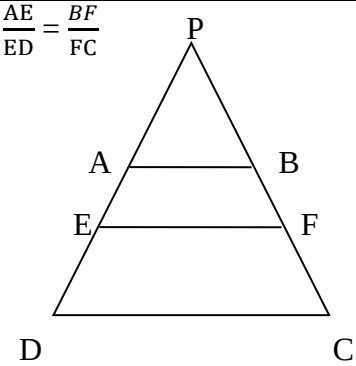
Name of the Student _____ Class &Division: X……. Roll Number : ___

S.No.	Section A-[Basic skills]
1 .	Find the third angle of triangle ABC whose two angles are 45^0 and 55^0
2.	If $y^2 = 2025$, find the value of y.
3.	23.5 x 45.6 =
4.	3040 ÷ 30 =

	Section B -[Chapter based questions]	Marks
1.	In the given figure , in ΔABC , DE || BC , so that AD =(7x – 4) cm , AE= (5x – 2) cm, and DB = (3x + 4)cm and EC = 3x cm. Find the value of x. 	2
2.	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
3.	P and Q are points on the sides AB and AC respectively of ΔABC such that AP = 3.5 cm , PB = 7 cm , AQ = 3 cm and QC = 6 cm . If PQ = 4.5 cm , find BC.	2
4.	In the figure , PQ || MN. If $\frac{KP}{PM} = \frac{4}{13}$ and KN = 20.4 cm , find KQ 	2
5.	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 $TX^2 = TB \times TC$	3
6.	Prove that any line parallel to the parallel sides of a trapezium divides the non – parallel sides proportionally.	3

7.	In the figure , two triangles ABC and DBC lie on the same side of base BC.P is a point on BC such that PQ || BA and PR || BD . Prove that QR || AD. 	
SECTION C - [HOT QUESTIONS]		
1.	If three or more parallel lines are intersected by two transversals , prove that the intercepts made by them on the transversals are proportional.	4
2.	In the 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
3.	In the figure if EF || DC || AB , prove that $\frac{AE}{ED} = \frac{BF}{FC}$ 	4
4.	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