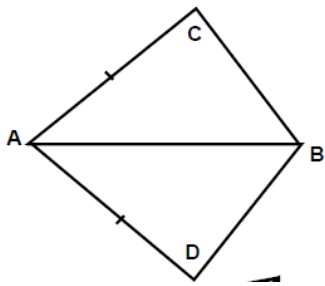
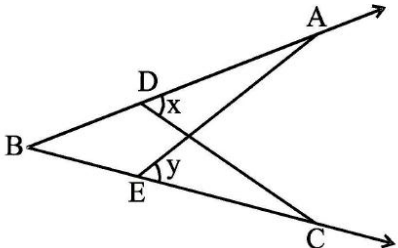
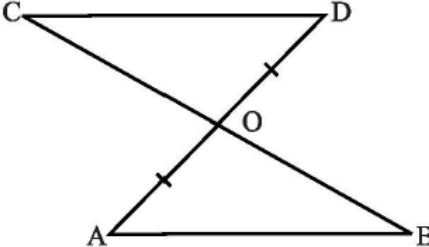
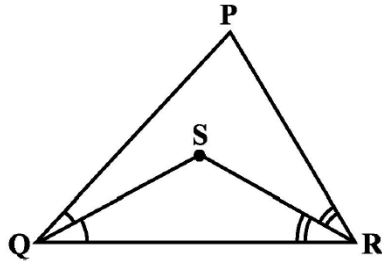
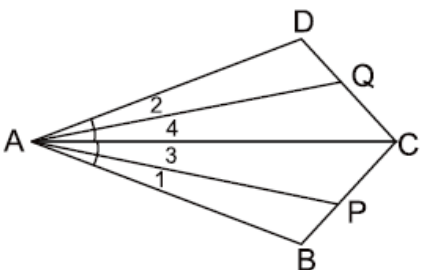


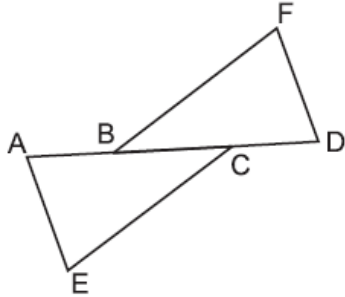
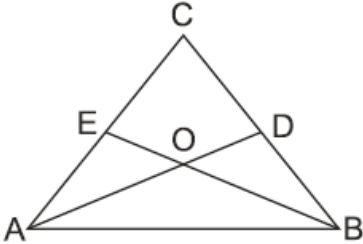


INDIAN SCHOOL AL WADI AL KABIR

Class: IX	Department: MATHEMATICS	Date of submission:
Worksheet No:T/1	Topic: Triangles	31/10/2019

I	MCQ
1.	Line segment joining the mid point of any side with the opposite vertex is (a) altitude (b) median (c) perpendicular bisector (d) angle bisector
2.	The point of intersection of all the altitudes of a triangle is (a) orthocentre (b) incentre (c) circumcentre (d) centroid
3.	In a triangle, the angle opposite to the longest side is: (a) greater than 60° (b) measure of 50° (c) greater than 90° (d) none of these
4.	The point of intersection of all the medians of a triangle is (a) orthocentre (b) incentre (c) circumcentre (d) centroid
5.	In a triangle ABC, if $2\angle A = 3\angle B = 6\angle C$, then the measure of $\angle A$ is (a) 30° (b) 75° (c) 90° (d) 60°
6.	In quadrilateral ABCD, $AC = AD$ and AB bisect $\angle A$ and $\triangle ABC \cong \triangle ABD$. The relation between BC and BD is (a) $BC > BD$ (b) $BC < BD$ (c) $BC = BD$ (d) $BC = (1/2)BD$
	
7.	If M is the midpoint of hypotenuse AC of right triangle ABC then $BM = \frac{1}{2}$ ____ (a) AC (b) BC (c) AB (d) none of these
8.	In a triangle side opposite to larger angle is (a) longer (b) shorter (c) equal (d) none of these
9.	$\angle x$ and $\angle y$ are exterior angles of a $\triangle ABC$, at the points B and C respectively. Also $\angle B > \angle C$, then relation between $\angle x$ and $\angle y$ is (a) $\angle x > \angle y$ (b) $\angle x < \angle y$ (c) $\angle x = \angle y$ (d) none of these
10.	The measure of each angle of an equilateral triangle is: (a) 60° (b) 30° (c) 45° (d) 40°

II	Short Answer
1.	In the figure if $\angle x = \angle y$ and $AB = CB$. Prove that $AE = CD$. 
2.	If two isosceles triangles have a common base, prove that the line joining the vertices bisects the base at right angle.
3.	Show that the sum of three altitudes of a triangle is less than the sum of the three sides of the triangle.
4.	Line-segment AB is parallel to another line-segment CD. O is the mid-point of AD (see the adjoining figure). Show that (i) $\triangle AOB \cong \triangle DOC$ (ii) O is also the mid-point of BC. 
5.	In the below Figure, $PQ > PR$ and QS and RS are the bisectors of $\angle Q$ and $\angle R$, respectively. Show that $SQ > SR$. 
6	Show that in a quadrilateral ABCD, $AB + BC + CD + DA < 2(BD + AC)$.
7	In the given figure, $AB = AD$, $\angle 1 = \angle 2$ and $\angle 3 = \angle 4$. Prove that $AP = AQ$. 

8	In the given figure, $AB = CD$, $CE = BF$ and $\angle ACE = \angle DBF$. Prove that (i) $\triangle ACE \cong \triangle DBF$ (ii) $AE = DF$ 
9	In the given figure, $\angle ABC = \angle BAC$, D and E are points on BC and AC respectively such that $DB = AE$. If AD and BE intersect at O then prove that $OA = OB$. 
10	In the given figure, $\angle a > \angle b$, show that $\angle ATM < \angle AMT$. 