

Comprehensive Test Series-02 Triangles

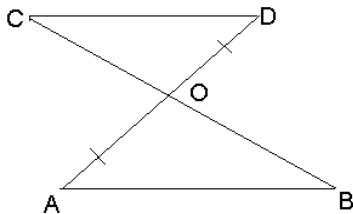
TIME: 1 hr.

MM: 20

General Instructions:

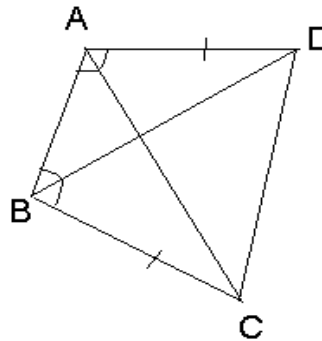
- All Questions are compulsory.
 - Marks are given along with the questions individually.
 - Use of calculator is not permitted.
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Q.1 Line segment AB is parallel to another line segment CD. O is the mid point of AD Show that
(i) $\triangle AOB \cong \triangle DOC$ (ii) O is also the mid point of BC.



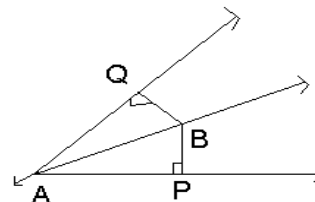
Q. 2 ABCD is a quadrilateral in which $AD = BC$ and $\angle DAB = \angle CBA$. Prove that

- (i) $\triangle ABD \cong \triangle BAC$
- (ii) $BD = AC$
- (iii) $\angle ABD = \angle BAC$.

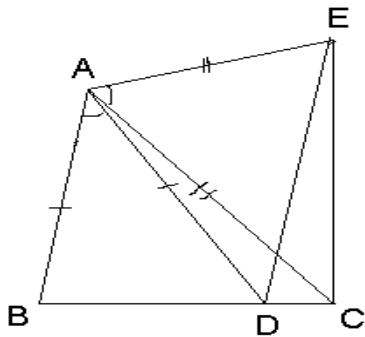


Q. 3 Line l is the bisector of an angle $\angle A$ and B is any point on l. BP and BQ are perpendiculars from B to the arms of $\angle A$. Show that

- (i) $\triangle APB \cong \triangle AQB$
- (ii) $BP = BQ$ or B is equidistant from the arms of $\angle A$.

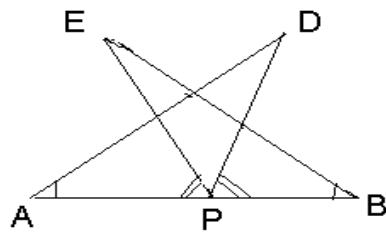


Q.4 $AC = AE$, $AB = AD$ and $\angle BAD = \angle EAC$. Show that $BC = DE$.



Q.5 AB is a line segment and P is its mid-point. D and E are points on the same side of AB such that $\angle BAD = \angle ABE$ and $\angle EPA = \angle DPB$. Show that

- (i) $\triangle DAP \cong \triangle EBP$
- (ii) $AD = BE$



Q. 6 In right triangle ABC , right angled at C , M is the mid-point of hypotenuse AB . C is joined to M and produced to a point D such that $DM = CM$. Point D is joined to point B . Show that

- (i) $\triangle AMC \cong \triangle BMD$
- (ii) $\angle DBC$ is a right angle
- (iii) $\triangle DBC \cong \triangle ACB$
- (iv) $CM = \frac{1}{2} AB$

