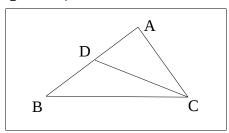
Triangles-Assignment

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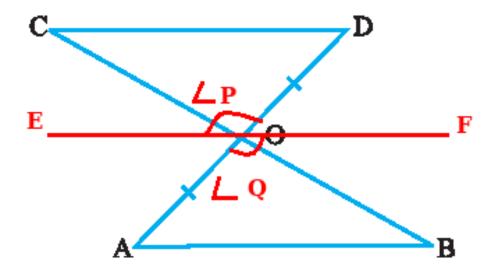
Q.1: 'D' is mid point of AB(see Fig. below). Prove that: \triangle ADC \cong \triangle BDC if \angle A= \angle B.



Q.2: AB is a line segment and line *l* is its perpendicular bisector. If a point P lies on *l*, show that P is equidistant from A and B.

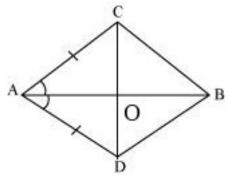
Q.3: Line-segment AB is parallel to another line-segment CD. O is the mid-point of AD (see Fig. below). Show that

- (i) $\triangle AOB \cong \triangle DOC$
- (ii) O is also the mid-point of BC.
- (iii)Show that EF is also parallel to AB and CD if \angle A+ \angle Q= \angle D+ \angle P= 180°



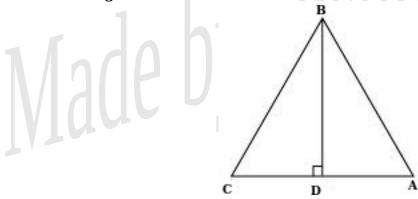
Q.4: In quadrilateral ACBD, AC = AD and AB bisects \angle A (see Fig. Given below). Show that \triangle ABC \cong \triangle ABD and \triangle AOC \cong \triangle AOD.

What can you say about BC and BD?



Q.5: P and Q are the mid points on the sides CA and CB respectively of triangle ABC right angled at C. Prove that $4(AQ^2+BP^2)=5AB^2$

Q.6:In $\triangle ABC$, BD is the perpendicular bisector of CA (see the given figure). Show that $\triangle ABC$ is an isosceles triangle in which BC = BA.



Q.7: AB is a line-segment. P and Q are points on opposite sides of AB such that each of them is equidistant from the points A and B. Show that the line PQ is the perpendicular bisector of AB.

Q.8: D is a point on side BC of \triangle ABC such that AD = AC. Show that AB > AD.

Rest you do from your NCERT Books.

For any further query: contact me through e-mail- skdwivedi2009@gmail.com

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