QUARDRILATERALS
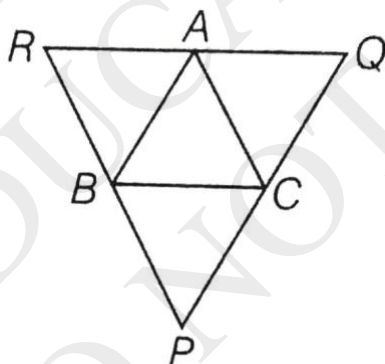
1. The diagonals AC and BD of a parallelogram ABCD intersect each other at the point O. If Angle DAC =32⁰ and angle AOB =70⁰ then find angle DBC.

2. Through A, B and lines RQ, PR and QP have been drawn respectively, parallel to sides BC , CA and AB of a triangle ABC as shown in figure. Show that BC = QR/2
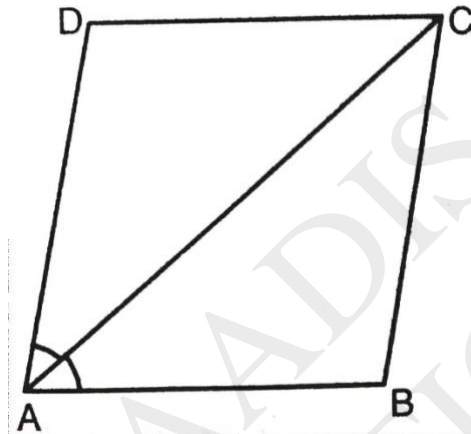

3. In the following figure, ABCD is a rectangle such that angle CFE = 144⁰ and angle ABE = 30⁰. Find the measure of Angle BEF.
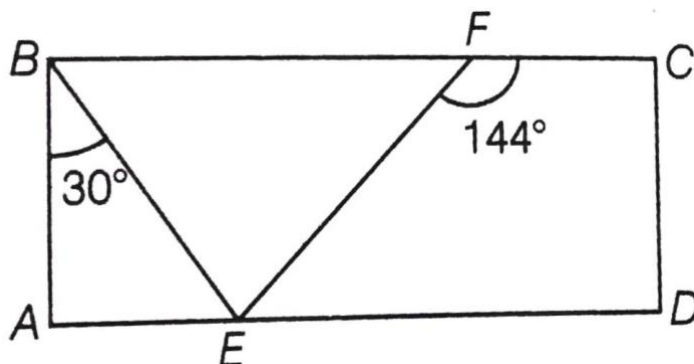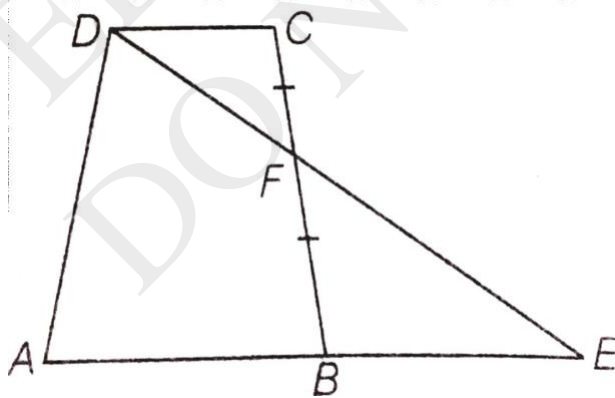
4.Diagonal AC of a parallelogram ABCD bisects angle A. Show that :

(i)   it bisects angle C
(ii)   ABCD is a rhombus.

5.In a parallelogram, show that the angle bisectors of two adjacent angles intersect at right angles.

6.In the figure, ABCD is a trapezium with AB I I DC. F is the mid-point of BC. DF and AB are produced to meet at E. Show that F is also the mid-point of DE.

7. D, E and F are respectively the mid-points of the sides AB, BC and CA, respectively of a triangle ABC. Prove that by

joining these mid-points D, E and F, the triangle ABC is divided into four congruent triangles.

8. If ABCD is a quadrilateral in which AB I l CD and AD = BC, then prove that angle A = angle B.

9. E is the mid-point of median AD of A ABC and BE is produced to meet AC at F. Show that $AF = \frac{1}{3} AC$

10. ABC is triangle. D is a point on AB such that $AD = \frac{1}{4} AB$ and E is a point on AC such that $AE = \frac{1}{4} AC$. Prove that $DE = \frac{1}{4} BC$.