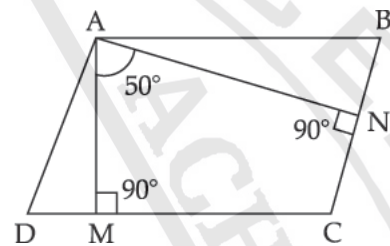


Class 9 Mathematics CPS

Quadrilaterals

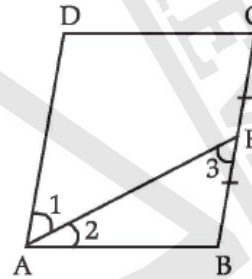
1. The angles of a quadrilateral are $4x^\circ$, $7x^\circ$, $15x^\circ$ and $10x^\circ$. Find the smallest and largest angles of the quadrilateral
2. In a parallelogram, show that the angle bisectors of two adjacent angles intersect at right angle.

3. The angle between the two altitudes of a parallelogram through the vertex of an obtuse angle is 50° . Find the angles of a parallelogram.

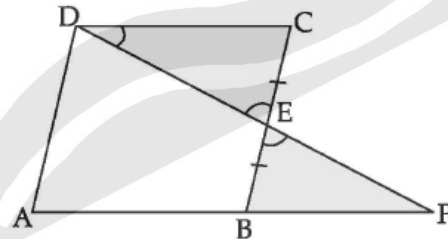


4. Two parallel lines l and m are intersected by transversal t . Show that the quadrilateral formed by bisectors of interior angles is a rectangle.

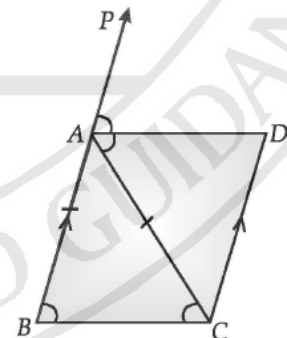
5. ABCD is a parallelogram. If E is mid-point of BC and AE is the bisector of $\angle A$, prove that $AB = \frac{1}{2} AD$.



6. In the figure, ABCD is a parallelogram and E is the mid-point of side BC. DE and AB on producing meet at F. Prove that $AF = 2AB$



7. In the given figure, ABC is an isosceles triangle in which $AB = AC$, AD bisects the exterior angle PAC and $CD \parallel AB$. Show that :
 - a. Angle DAC = angle BCA
 - b. ABCD is a parallelogram



8. ABCD is a rhombus and P, Q, R and S are the midpoints of AB, BC, CD and DA respectively. Prove that the quadrilateral PQRS is a rectangle.