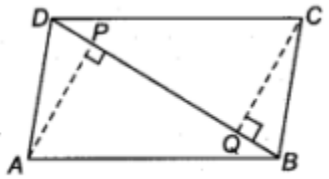
Class 9th maths Quadrilterals

1. **Three angles of a quadrilateral are 75°, 90° and 75°, then find fourth angle.**
2. **A diagonal of a rectangle is inclined to one side of the rectangle at 25°. Find The acute angle between the diagonals.**
3. **If angles A, B,C and D of the quadrilateral ABCD, taken in order are in the ratio 3 :7:6:4, then ABCD is a**
   (a) rhombus
   (b) parallelogram
   (c) trapezium
   (d) kite
4. Show that if the diagonals of a quadrilateral bisect each other at right angles, then it is a rhombus.
5. Show that if the diagonals of a quadrilateral are equal and bisect each other at right angles, then it is a square.
6. **ABCD is a parallelogram and AP and CQ are perpendiculars from vertices A and C on diagonal BD. Show that**



(i) $\Delta APB \equiv \Delta CQD$ (ii) $AP = CQ$.

7. ABCD is a trapezium in which AB || DC, BD is a diagonal and E is the mid-point of AD. A line is drawn through E parallel to AB intersecting BC at F (see figure). Show that F is the mid-point of BC.