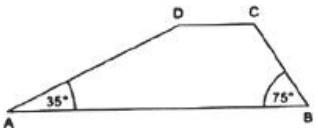
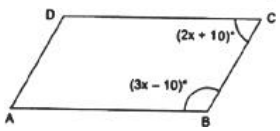
Ch-8 Quadrilaterals

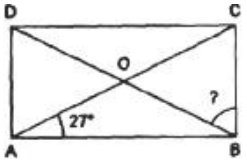
1. ABCD is a parallelogram such that its diagonals are equal. What is the measure of ∟ABC?
2. In a parallelogram ABCD, if ∠C = 80^o, then what is the measure of ∠A?
3. Each side of a rhombus is 15 cm. If the length of one of its diagonals is 18 cm, then what is the length of the other diagonal?
4. ABCD is a rhombus such that ∠ADB = 50^o, then what is the measure of ∠ACB?
5. A diagonal of a rectangle is inclined to one side of the rectangle at 25^o. What is the measure of acute angle between the diagonals?
6. Diagonals of a parallelogram ABCD intersect at O. if ∠BOC = 90^o and ∠BDC = 40^o, then what is the measure of ∠OAB?
7. Name various kinds of parallelogram.
8. In a ΔABC, D, E and F are mid-points of sides AB, AC and BC respectively. If DE and DF are joined, find the perimeter of BDEF.
9. A diagonal of a parallelogram divides it into how many congruent triangles?
10. If the bisectors of angles of a quadrilateral enclose a rectangle, then show that it is a parallelogram.
11. L, M, N, K are mid-points of sides BC, CD, DA and AB respectively of square ABCD, prove that DL, DK, BM and BN enclose a rhombus.
12. PQRS is a parallelogram. PS is produced to meet M so that SM = SR and MR is produced to meet PQ produced at N. Prove that QN = QR.
13. In a ΔABC, DE is parallel to BC and D is the mid-point of side AB. Find the perimeter of ΔABC when AE = 4.5 cm, DE = 5 cm and DB = 3.5 cm.
14. If an angle of a parallelogram is 4/5 of its adjacent angle, then find the measures of all the angles of the parallelogram.
15. ABCD is a trapezium in which AB is parallel to CD. If ∠A = 36^o and ∠B = 81^o, then find ∠C and ∠D.
16. In a ΔABC, DE is parallel to BC and D is the mid-point of side AB. Find AE and BC if DE = 6 cm and EC = 5 cm.
17. In a parallelogram ABCD find the measure of all the angles if one angle measures 68^o.
18. The lengths of diagonals of a rhombus are 24 cm and 18 cm respectively. Find the length of each side of the rhombus.
19. In a parallelogram ABCD find the measure of all the angles if one its angles is 15^o less than twice the smallest angle.
20. In the adjoining figure, ABCD is a trapezium in which AB || DC. If ∠A = 35^o and ∠B = 75^o, then find ∠C and ∠D.



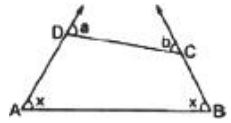
21. In a parallelogram ABCD, if (3x – 10)^o = ∠B and (2x + 10)^o = ∠C, then find the value of x.



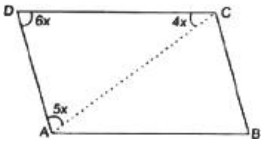
22. The adjoining figure is a rectangle whose diagonals AC and BD intersect at O. If ∠OAB = 27^o, then find ∠OBC.



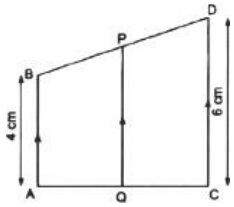
23. The sides AD and BC of a quadrilateral are produced as shown in the given figure. Prove that $x = \frac{a+b}{2}$.



24. In the adjoining figure, ABCD is a ||gm. Find the angles A, B, C and D.



25. In the adjacent figure, AB || QP || CD, Q is the mid-point of AC. If AB = 4 cm and CD = 6 cm then find PQ.



26. In the adjoining figure, ABCD and PQRB are rectangles where Q is the mid-point of BD. If QR = 5 cm, then find the length of AB.