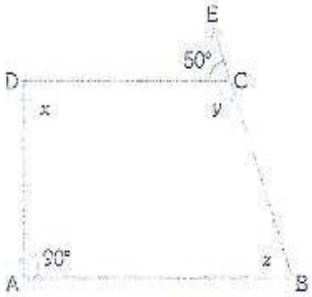
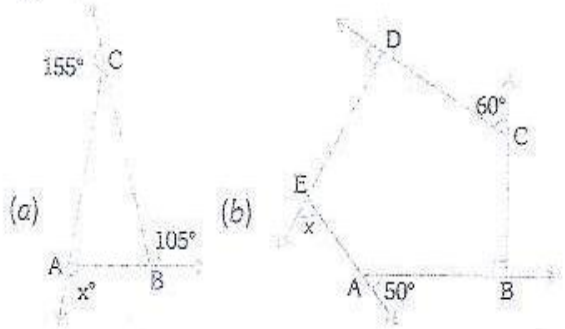
Understanding Quadilaterals

1. A quadrilateral has three acute angles, each measuring 75°. Find its fourth angle.
2. The angles of a quadrilateral are in the ratio of 2 : 3 : 3 : 4. Find the angles of the quadrilateral.
3. The adjacent angles of a parallelogram are in the ratio 2 : 3. Find the angles.
4. One side of a parallelogram is 4.8 cm and the other side is $1\frac{1}{2}$ times of this side. Find the perimeter of the parallelogram.
5. ABCD is a rhombus. Diagonals AC and BD bisect each other at O such that AC = 6 cm and BD = 8 cm. Find the side of the rhombus.
6. Diagonals of a rhombus are equal. Is this rhombus also a square?
7. ABCD is a rectangle, its adjacent sides are in the ratio 3 : 5 and its perimeter is 48 cm. Find the length of the sides.
8. (a) Find the measure of x, y and z in the trapezium ABCD, AB || CD if $\angle A = 90°$ and $\angle ECD = 50°$.

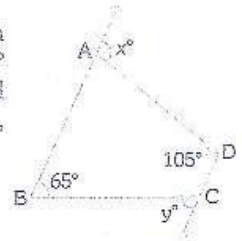


(b) If one angle of parallelogram is 130°, find its opposite and adjacent angles

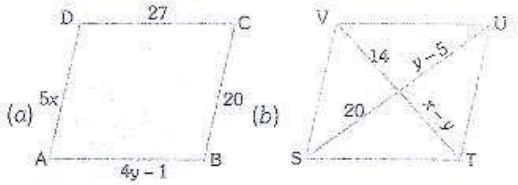
9. Find the value of x in each of the following figures.



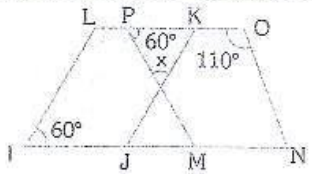
10. The sum of two angles of a quadrilateral is 160°. The other two angles are in the ratio 2 : 3. Find the angles.
11. The angles of a quadrilateral are in the ratio 3 : 5 : 7 : 9. Find the four angles.
12. In a quadrilateral PQRS, $\angle P = 3\angle Q$ and $\angle R = 4\angle S$. If $\angle Q = \angle S$, then find all the four angles.
13. In figure, ABCD is a quadrilateral with $\angle B = 65°$ and $\angle D = 105°$. If $\angle A$ and $\angle C$ are in the ratio 3 : 7, find the value of x and y.



14. Find the measure of each exterior angle of a regul polygon of
    (a) 36 sides (b) 40 sides.
15. Each interior angle of a regular polygon is 140 Find the number of its sides.
16. The four angles of a quadrilateral are in the ratic 3 : 4 : 5 : 6. Find its angles.
17. Three angles of a quadrilateral are equal, fourth angle is a right angle. Find the measures of the angles. Classify the quadrilateral as convex, concave, trapezium etc.
18. If the following quadrilaterals are parallelograms then find x and y.



19. In the following figure IJKL and MNOP are parallelograms. Find the measure of x.



20. Two opposite angles of a parallelogram are $(4x - 5)°$ and $(60 - x)°$. Find the measure of each angle of the parallelogram.
21. Lengths of two adjacent sides of parallelogram are 4 cm and 5 cm. Find the perimeter of the parallelogram.
22. The perimeter of a parallelogram is 36 cm. The smaller side is 8 cm long. Find the length of its longer side.
23. In a parallelogram PQRS, the diagonals intersect at O. PR = 7.4 cm and QS = 6.2 cm. Find the lengths of OR and OS.