

CHAPTER 03

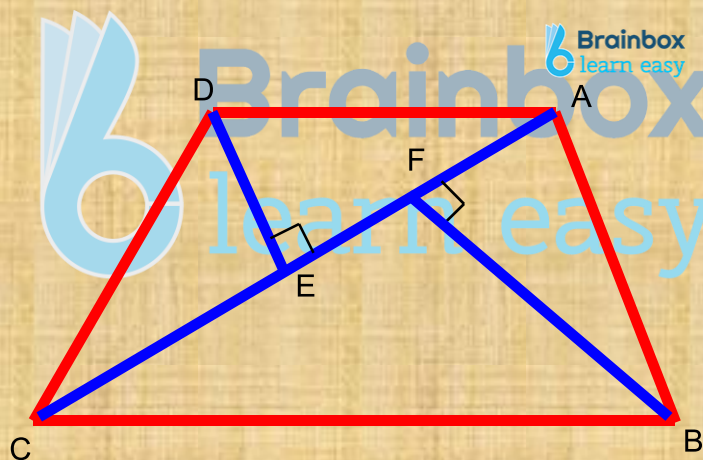
CONSTRUCTION OF QUADRILATERALS

Quadrilateral:

A closed plane figure bounded by 4 line segments is called a quadrilateral.

Properties:

- Sum of four interior angles is 360° .
- The figure formed by joining the mid – points of a quadrilateral is a parallelogram.



- The sum of opposite sides of quadrilateral circumscribed about a circle is always equal.
- Area of quadrilateral = $\frac{1}{2} \times (\text{One of the diagonals}) \times (\text{Sum of the perpendicular cube drawn to the diagonal from the opposite vertices})$

$$Ar(\square ABCD) = \frac{1}{2} \times AC \times (DE + BF)$$

Example:

Three angles of a quadrilateral are 98° , 50° and 100° . Find the fourth angle.

Sol.

Let the measure of fourth angle be x° .

We know that,

The sum of the angles of a quadrilateral is 360° .

$$\therefore 98^\circ + 50^\circ + 100^\circ + x^\circ = 360^\circ$$

$$\Rightarrow 248^\circ + x^\circ = 360^\circ$$

$$\Rightarrow x^\circ = 360^\circ - 248^\circ = 112^\circ$$

Hence, the measure of fourth angle is 112° .