CHAPTER 03

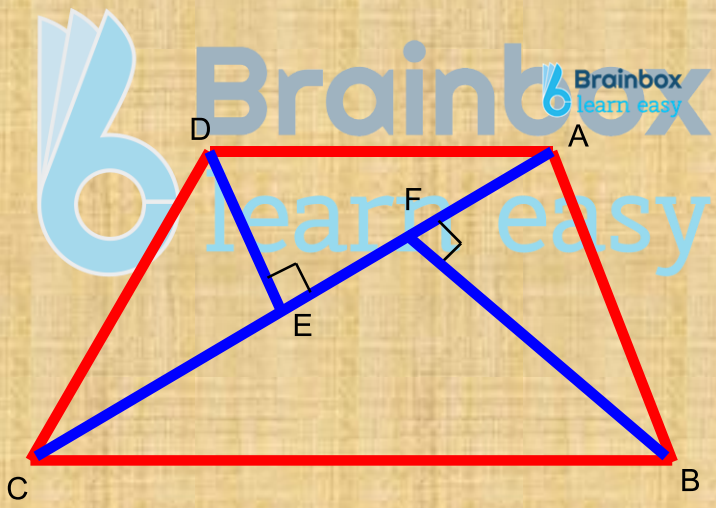
Understanding Quadrilaterals

Quadrilateral:

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

Properties:

- Sum of four interior angles is 360^o.
- 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 =

  $\frac{1}{2}$ x (One of the diagonals) x (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°.

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

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

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

Hence, the measure of fourth angle is 112°.