

Tender Heart High School, Sec-33B, Chd.

Class :- VI

Date :- 04.11.2024

Subject :- Mathematics

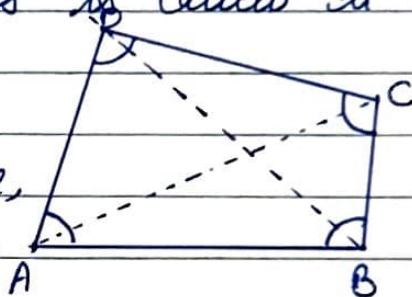
Teacher :- Mrs. Sushma

Chapter - 17 Quadrilaterals

Quadrilateral :->

A simple closed figure bounded by four line segments is called a quadrilateral.

In the adjoining figure, ABCD is a quadrilateral.



A quadrilateral ABCD has:-

- i) four sides, namely AB, BC, CD, DA.
- ii) four angles, namely $\angle DAB$, $\angle ABC$, $\angle BCD$ and $\angle CDA$.
- iii) four vertices, namely A, B, C, D.

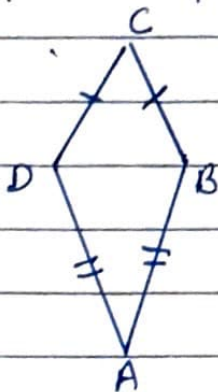
Diagonals of a Quadrilateral:- The line segments joining the opposite vertices of a quadrilateral is called a diagonal of the quadrilateral.

In the adjoining figure, AC and BD are the two diagonals of the quadrilateral ABCD.

Angle sum property of a quadrilateral:->

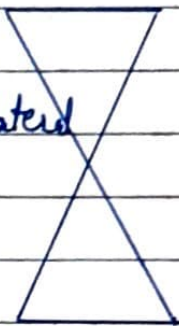
The sum of all the four angles of a quadrilateral is 360° .

equal adjacent sides but unequal, opposite sides is called a kite.



Exercise 17A

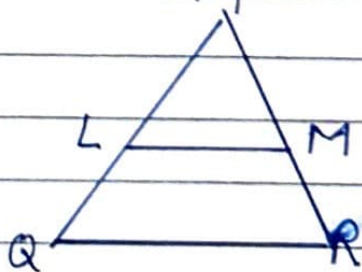
Q1. Is the figure shown here a quadrilateral? State, giving reasons.



Soln:- No, A quadrilateral has bounded by four line segments.

Q2. In the adjoining figure, L and M are points on the sides PQ and PR respectively, of $\triangle PQR$ such that $LM \parallel QR$. What special name would you give to the quadrilateral LQRM?

Ans:- Trapezium



Q3. Let ABCD be a parallelogram. What special name would you give it, when,

(i) $AB = AD$?

(ii) $\angle ABC = 90^\circ$?

(iii) $AB = AD$ and $\angle ABC = 90^\circ$?

Q6:- In a $\parallel\text{gm}$ $ABCD$

(i) $AB = AD$, then $ABCD$ is a rhombus

(ii) $\angle ABC = 90^\circ$

Then, $ABCD$ is a rectangle.

(iii) $AB = AD$ and $\angle ABC = 90^\circ$, then $ABCD$ is square.

Q7:

(i) How does a trapezium differ from a $\parallel\text{gm}$?

A quadrilateral having one and only one pair of opposite sides $\parallel$ is called a trapezium while a quadrilateral in which both pair of opposite sides are parallel, is called a parallelogram.