

# Chapter Name

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## 10<sup>th</sup> Maths - Chapter 7

This is Problem-6.1 from Exercise 7.1

1. Name the type of quadrilateral formed, if any, by the following points, and give reasons for your answer:

(i)  $(-1, -2), (1, 0), (-1, 2), (-3, 0)$   $-2(2)+2(2)$

$-4+4$

$0=0$

so, it is a parallelogram

if  $(\mathbf{A} - \mathbf{C})^\top (\mathbf{B} - \mathbf{D}) = 0$  then it is a rhombus

$\begin{pmatrix} 0 & 0 \end{pmatrix} \begin{pmatrix} 4 \\ 0 \end{pmatrix}$

$0(4)-0(0)$

$0-0$

$0 = 0$

so, it is a rhombus

if  $(\mathbf{A} - \mathbf{D})^\top (\mathbf{A} - \mathbf{B}) = 0$  then it is a square

$\begin{pmatrix} 2 & 2 \end{pmatrix}^\top \begin{pmatrix} -2 \\ 2 \end{pmatrix}$

$2(-2)+2(2)$

$-4+4$

$$0=0$$

so, it is a square

if  $(\mathbf{A} - \mathbf{B})^\top (\mathbf{B} - \mathbf{C}) = 0$  then it is a rectangle

$$\begin{pmatrix} -2 & 2 \end{pmatrix}^\top \begin{pmatrix} 2 \\ -2 \end{pmatrix}$$

$$-2(2)+2(-2)$$

$$-4+4$$

$$0=0$$

so, it is a rectangle

It is a square because every square is rectangle, rhombus and parallelogram

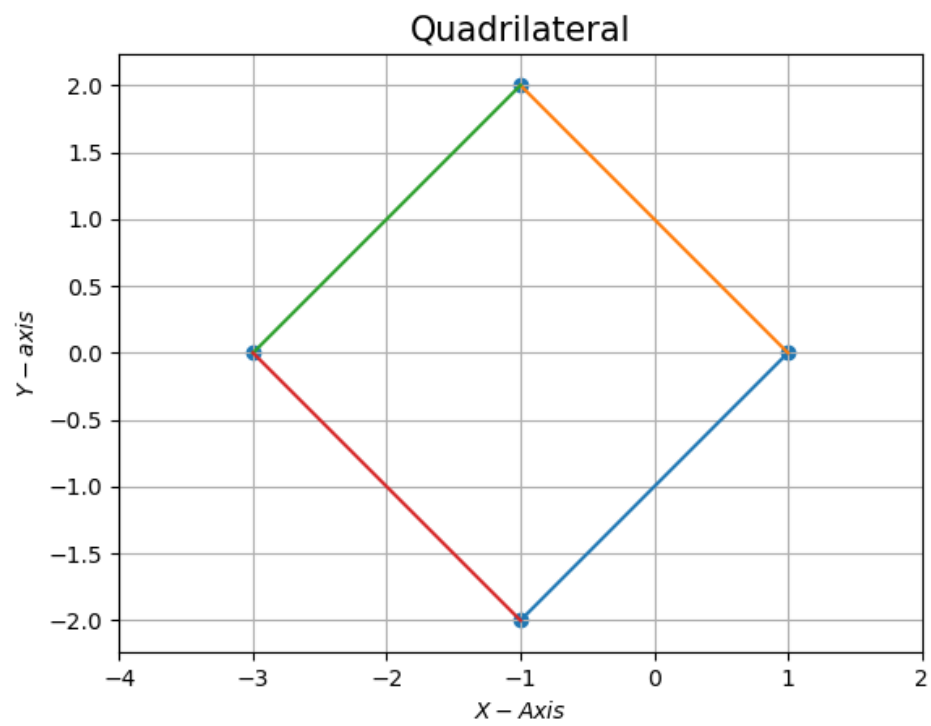


Figure 1: Quadrilateral ABCD