

1.1.2.13

AI24BTECH11020 - RISHIKA KOTHA

Question: The fourth vertex **D** of a parallelogram ABCD whose three vertices are **A**(-2, 3), **B**(6, 7) and **C**(8, 3) is

Solution:

we know that, in a parallelogram,

$$A + C = B + D \quad (0.1)$$

$$\Rightarrow D = A + C - B \quad (0.2)$$

$$\Rightarrow D = \begin{pmatrix} -2 + 8 - 6 \\ 3 + 3 - 7 \end{pmatrix} \quad (0.3)$$

$$\therefore D = \begin{pmatrix} 0 \\ -1 \end{pmatrix} \quad (0.4)$$

Parameter	value
A	$\begin{pmatrix} -2 \\ 3 \end{pmatrix}$
B	$\begin{pmatrix} 6 \\ 7 \end{pmatrix}$
C	$\begin{pmatrix} 8 \\ 3 \end{pmatrix}$
D	$\begin{pmatrix} 0 \\ -1 \end{pmatrix}$

TABLE 0: Vertices

