## AI24BTECH11020 - RISHIKA KOTHA

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

**Solution:** we know that, in a parallelogram,

Vertices	Values
A	(2, 3)
В	(6, 7)
С	(8, 3)

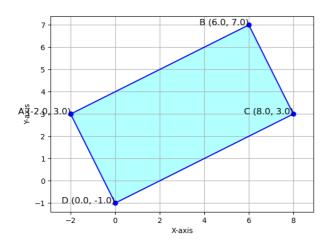
TABLE 0: Vertices

$$A + C = B + D \tag{0.1}$$

$$\implies D = A + C - B \tag{0.2}$$

$$\implies D = \begin{pmatrix} -2 + 8 - 6 \\ 3 + 3 - 7 \end{pmatrix} \tag{0.3}$$

$$\therefore D = \begin{pmatrix} 0 \\ -1 \end{pmatrix} \tag{0.4}$$



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