1.1.2.13

AI24BTECH11020 - RISHIKA KOTHA

Question: The fourth vertex **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,

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

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

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

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

Parameter	description
A	$(-2,3)$
B	$(6,7)$
C	$(8,3)$
D	$(0,-1)$

TABLE 0: Vertices