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,

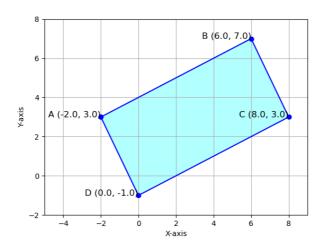| Vertices	Values
A	$(2, 3)$
B	$(6, 7)$
C	$(8, 3)$

TABLE 0: Vertices

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

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

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

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