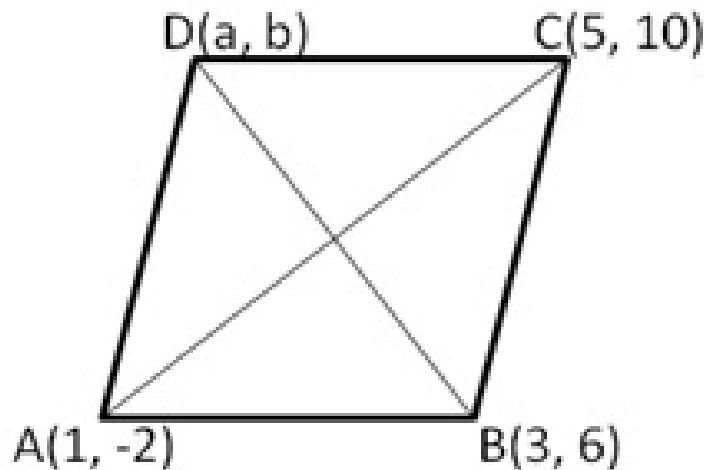




Exercise 16B

Question 26:

Let $A(1, -2)$, $B(3, 6)$ and $C(5, 10)$ are the given vertices of the parallelogram ABCD.



Let $D(a, b)$ be its fourth vertex. Join AC and BD.

Let AC and BD intersect at the point O.

We know that the diagonals of a parallelogram bisect each other.

So, O is the midpoint AC as well as that of BD

Midpoint of AC is $\left(\frac{1+5}{2}, \frac{-2+10}{2}\right)$ i.e., $(3, 4)$

$$\left(\frac{3+a}{2}, \frac{6+b}{2}\right)$$

Midpoint of BD is

$$\frac{3+a}{2} = 3 \text{ and } \frac{6+b}{2} = 4$$

$$\Rightarrow a = 3 \text{ and } b = 2$$

Hence the fourth vertices is $D(3, 2)$.

***** END *****