1.4.9o

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Question:
Let A $\begin{pmatrix}4\\2\end{pmatrix}$, B $\begin{pmatrix}6\\5\end{pmatrix}$, C $\begin{pmatrix}1\\4\end{pmatrix}$ be the vertices of $\triangle ABC$.
The median from A meets BC at D. Find the coordinates of the point D.
Solution: :

Variable	Description
D	Point to be found
A	$\begin{pmatrix}4\\2\end{pmatrix}$ point
B	$\begin{pmatrix}6\\5\end{pmatrix}$ point
C	$\begin{pmatrix}1\\4\end{pmatrix}$ point
k	Ratio in which A divides BC height

TABLE 0: Variables Used

Using section formula,the mid point of BC is

$$\mathbf{D} = \frac{\mathbf{B} + \mathbf{C}}{2} \tag{0.1}$$

(0.2)

$$\mathbf{D} = \begin{pmatrix}\frac{7}{2}\\\frac{9}{2}\end{pmatrix} \tag{0.3}$$

Therefore $\begin{pmatrix}\frac{7}{2}\\\frac{9}{2}\end{pmatrix}$ are the required coordinates of D.

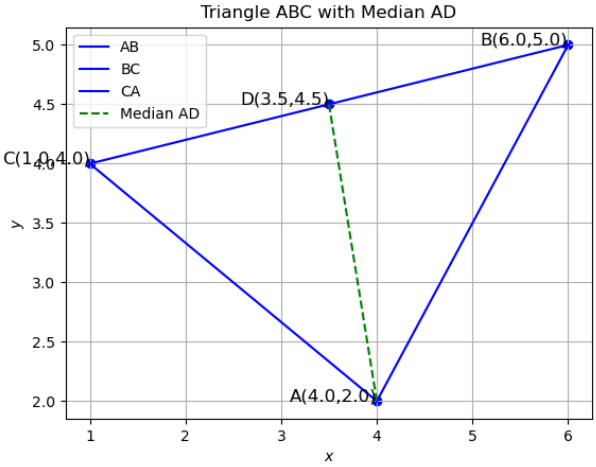

Fig. 0.1: Median of triangle