Coordinate Geometry

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This is Problem-7 from Exercise 7.4

1. Let A(4, 2), B(6,5) and C(1, 4) be the vertices of triangle ABC (ii)Find the coordinates of the point P on the AD, such that AP: PD = 2: 1.

Solution: :

Median AD of the triangle will divide the side BC in two equal parts. So D is the midpoint of side BC

$$Coordinates of D = \begin{pmatrix} \frac{(6+1)}{2} & +\frac{(5+4)}{2} \end{pmatrix} = \begin{pmatrix} \frac{7}{2} & +\frac{9}{2} \end{pmatrix}$$
 (1)

Point P divides the side AD in a ratio 2:1.