Assignment-2

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I. Intersection of Conics(CBSE)

Question: find the coordinates of the point which divides the line segment joining the points $(4, -3)$ and $(8, 5)$ in the ratio 3 : 1 internally

Solution: given $A(4, -3)(x_1, y_1)$ and $B(8, 5)(x_2, y_2)$

The section formula states that if a point P divides the line segment joining points $A(x_1, y_1)$ and $A(x_2, y_2)$ in the ratio m : n, then the coordinates of point P are given by:

$$\frac{1}{3+1}\left(\begin{pmatrix}4\\-3\end{pmatrix}+3\begin{pmatrix}8\\5\end{pmatrix}\right)=\begin{pmatrix}7\\3\end{pmatrix} \tag{1}$$

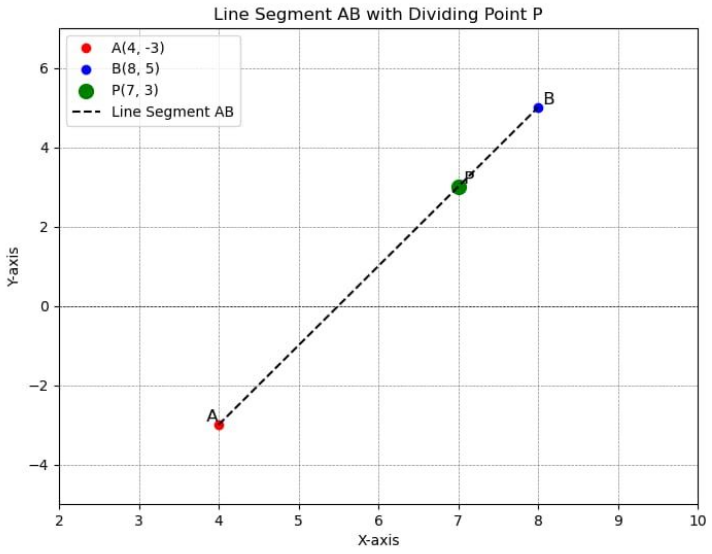

Fig. 1. Stem Plot of y(n)

Variable	Description
A	position vector of point (4, -3)
B	position vector of point (8, 5)
P	position vector of point whhich divides points A and B in the ratio 3:1

Table 1
Parameters Used