

Assignment-2

AI24BTECH11026- pendem nitesh sri satya

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: using section formula, the desired point is

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

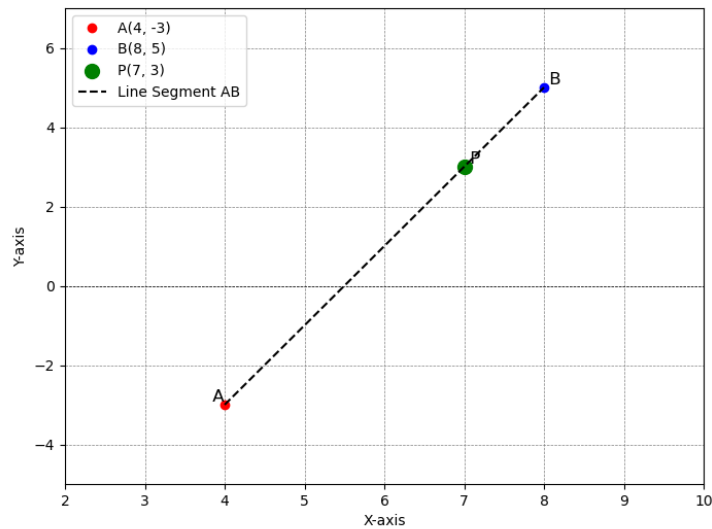


Fig. 1. Stem Plot of $y(n)$

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

Table 1
PARAMETERS USED