

1-1.4-9f

EE24BTECH11043 - Murra Rajesh Kumar Reddy

Question:

The point which divides the line segment joining the points $P(7, -6)$ and $Q(3, 4)$ in the ratio $1 : 2$ internally lies in which quadrant?

Solution: Using section formula (0.1), the desired point is

$$\frac{1}{1+2} \left(\begin{pmatrix} 3 \\ 4 \end{pmatrix} + 2 \begin{pmatrix} -1 \\ 7 \end{pmatrix} \right) = \begin{pmatrix} \frac{17}{3} \\ -\frac{8}{3} \end{pmatrix} \quad (0.1)$$

See Fig. 0.1

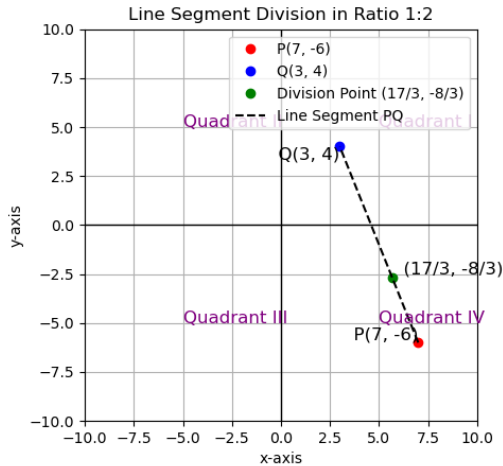


Fig. 0.1: Section Formula

The desired point lies in the 4^{th} quadrant.