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ASSIGNMENT-1

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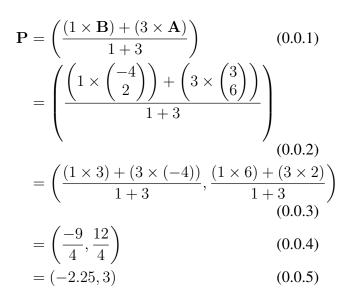
Question: Calculate the ratio in which the line joining $\mathbf{A} = \begin{pmatrix} -4 \\ 2 \end{pmatrix}$ and $\mathbf{B} = \begin{pmatrix} 3 \\ 6 \end{pmatrix}$ is divided by the point $\mathbf{P} = \begin{pmatrix} x^* \\ 3 \end{pmatrix}$. Also find



2) Length of \overrightarrow{AP}

Solution: The ratio in which the line is divided by the point is 1:3.

1) Now lets find the point $P = \begin{pmatrix} x^* \\ 3 \end{pmatrix}$ by using the section formula



Therefore, the value of $x^* = -2.25$.

2) The length of the line \overrightarrow{AP} can be measured by the distance formula.

$$length = \sqrt[2]{(-4 - (-2.25))^2 + (2 - 3)^2}$$

$$= 2.015$$
(0.0.7)

The length of the line $\overrightarrow{AP} = 2.015(\text{Approx})$.

