1.5.8

EE25BTECH11020 - Darsh Pankaj Gajare

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Question:
Find the ratio in which $\mathbf{P}(4,5)$ divides the line segment joining $\mathbf{A}(2,3)$ and $\mathbf{B}(7,8)$.
Solution:

Point	matrix
A	$\begin{pmatrix} 2 \\ 3 \end{pmatrix}$
B	$\begin{pmatrix} 7 \\ 8 \end{pmatrix}$
P	$\begin{pmatrix} 4 \\ 5 \end{pmatrix}$

Table: Given Data

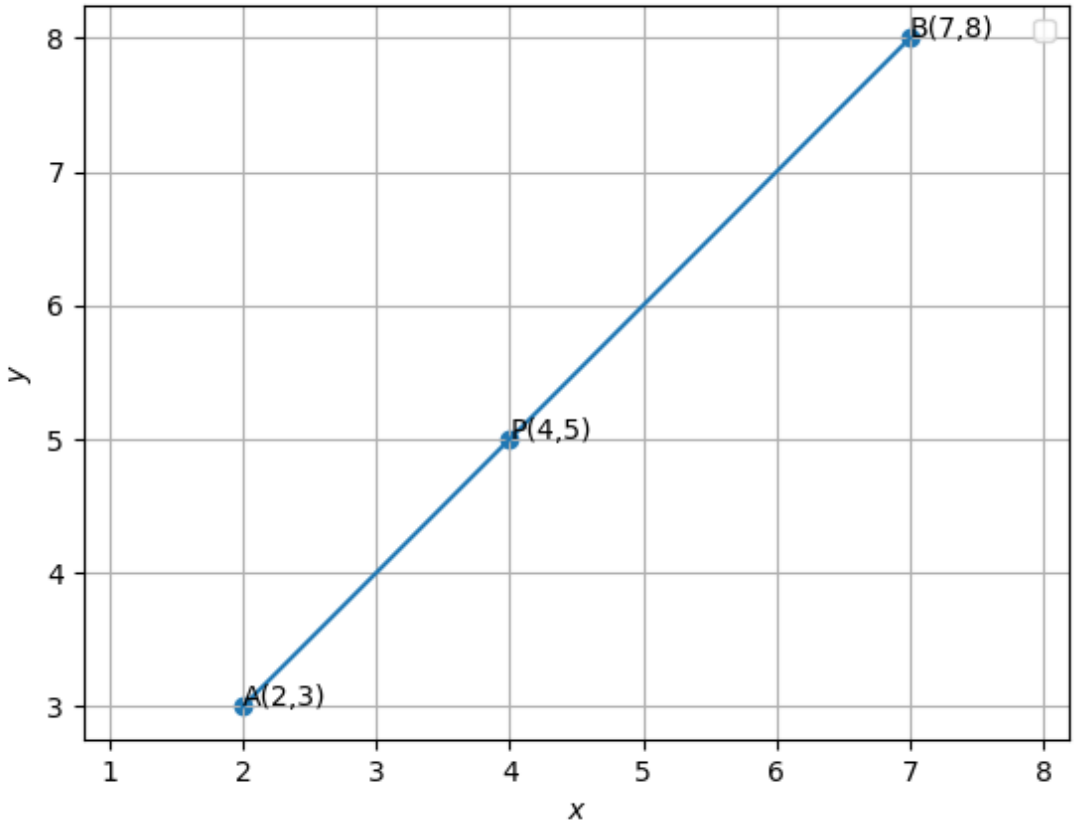
Using Section Formula,

$$\mathbf{P} = \frac{k\mathbf{B} + \mathbf{A}}{k+1} \tag{0.1}$$

$$\binom{4}{5} = \frac{k\binom{7}{8} + \binom{2}{3}}{k+1} \tag{0.2}$$

$$3k\binom{1}{1} = 2\binom{1}{1} \tag{0.3}$$

$$or, k = \frac{2}{3} \tag{0.4}$$


B(7,8)
P(4,5)
A(2,3)
y
x
8
7
6
5
4
3
1
2
3
4
5
6
7
8