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1) If A and B are the Points (5,3) and (15,-7) respectively. Find Co-ordinates of the Points which divides $\bar{AB}$ externally in the ra

Solution

Given $x_1 = 5$, $x_2 = 15$, $y_1 = 3$, $y_2 = -7$, $K = 3$, $L = 1$

$x = ?$ $y = ?$

$K : L = 3 : 1$

Find (x, y)

$x = \frac{Lx_1 - Kx_2}{L - K}$ for external division

$x = \frac{1(5) - 3(15)}{1 - 3} = \frac{-40}{-2} = 20$,,

$y = \frac{Ly_1 - Ky_2}{L - K} = \frac{1(3) - 3(-7)}{1 - 3} = \frac{3 + 21}{-2}$

$y = \frac{24}{-2} = -12$,,

$(x, y) = (20, -12)$

∴ The co-ordinates of the Point AB externally in the ratio of 3:1 is (20, -12)