

Akpokinwa Esetobor

Computer science

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MAT 102 Assignment

Let the external division point be B

$$P = \frac{b}{a+b} (A) + \frac{a}{a+b} (B)$$

where  $a = 3$ ,  $b = 1$ ,  $A(5, 3)$ ,  $B(15, -7)$

$$P = \frac{1}{3+1} (5, 3) + \frac{3}{3+1} (15, -7)$$

$$P = \frac{1}{4} (5, 3) + \frac{3}{4} (15, -7)$$

$$P = \left(\frac{5}{4}, \frac{3}{4}\right) + \left(\frac{45}{4}, -\frac{21}{4}\right)$$
$$\left(\frac{5}{4} + \frac{45}{4}, \frac{3}{4} - \frac{21}{4}\right)$$
$$\frac{50}{4}, -\frac{18}{4}$$

$$P = \frac{25}{2}, -\frac{9}{2} \text{ are the coordinates}$$

of the points that divides AB externally  
in the ratio 3:1