

## COMPUTER SCIENCE

If A and B are the points  $(5, 3)$  and  $(15, -7)$  respectively. Find the co-ordinates of the point which divides AB externally in ratio 3:1

Solution

Let external division point be B

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

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

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

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

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

$$P = \frac{50}{4}, -\frac{18}{4}$$

$$P = \frac{25}{2}, -\frac{9}{2} \text{ are the co-ordinates of the point}$$

that divides AB externally in the ratio 3:1