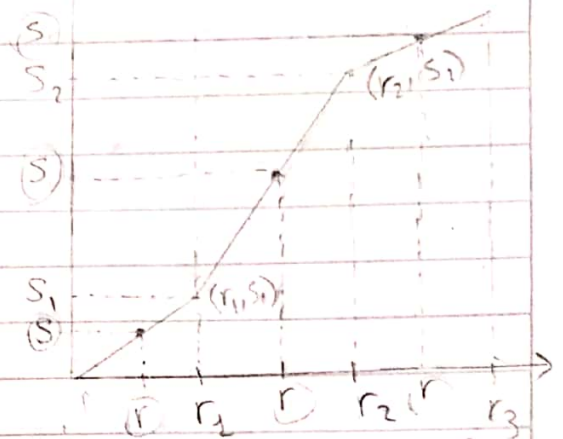


For the given graph, find the equation for S in $(0-r_1)$, (r_1-r_2) , (r_2-r_3) :

* Using the equation of the straight line:

$$y = \underbrace{\frac{y_2 - y_1}{x_2 - x_1}}_{\text{slope}} (x - x_1) + y_1$$



$$\Rightarrow S = \frac{S_1 - 0}{r_1 - 0} (r - 0) + 0, \text{ if } 0 \leq r \leq r_1$$

$$S = \frac{S_1}{r_1} \cdot r$$

$$\Rightarrow S = \frac{S_2 - S_1}{r_2 - r_1} (r - r_1) + S_1, \text{ if } r_1 \leq r \leq r_2$$

$$\Rightarrow S = \frac{S_3 - S_2}{r_3 - r_2} (r - r_2) + S_2, \text{ if } r_2 \leq r \leq r_3$$

$$S = \frac{255 - S_2}{255 - r_2} (r - r_2) + S_2, \quad \boxed{S_3 = 255, \quad r_3 = 255}$$