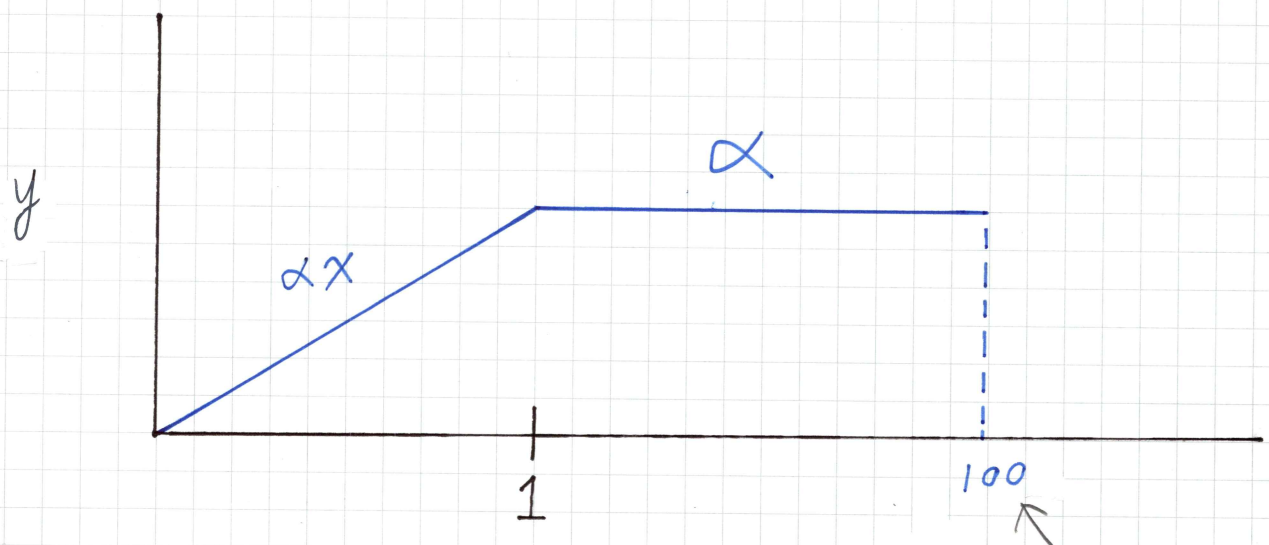
$$\frac{\text{component\_counts['l3'] * l3\_capacity}}{\text{workset\_size}} = x$$

$l3\_hit\_rate = y$

$l3\_hit\_rate\_nominal = \alpha$



$$y = \begin{cases} \alpha x & 0 \le x \le 1 \\ \alpha & 1 \le x \le 100 \end{cases}$$

//

$0 \le r_1 \le 1 \quad 0 \le r_2 \le 1 \quad 0 \le r_3 \le 1$

$x = 0 r_1 + 1 r_2 + 100 r_3$

$r_1 + r_2 + r_3 = 1$

$y = 0 r_1 + \alpha r_2 + \alpha r_3$

$r_1 \le bb_1 \quad r_2 \le bb_2 \quad r_3 \le bb_3$

$bb_1 + bb_2 + bb_3 \le 2$

$bb_1 + bb_3 \le 1$