(3) Calcolo λ finale (sostituisco λ_2)

$$\begin{cases} \lambda_1' = 0.2 \cdot (7.5) \\ \lambda_2' = 2\ (7,5) \\ \lambda_3' = 2,63 (7.5) \\ \lambda_4' = 1,35 (7.5) \end{cases} \qquad \begin{cases} \lambda_1' = 1,5 \\ \lambda_2' = 15 \\ \lambda_3' = 19,725 \\ \lambda_4' = 10.125 \end{cases}$$

Calcolo W_q

$$W_q = \sum_{j=1}^{M} v_j W_{qj}$$

Calcolo W_q

M/M/1

$$W_q = W - W_S = \frac{1}{M_j - \lambda_j} - \frac{1}{M_j}$$

$$W_{q1} = \frac{1}{20-15} - \frac{1}{20} = 0.004$$

$$W_{q2} = \frac{1}{30-15} - \frac{1}{30} = 0.033$$

$$W_{q4} = \frac{1}{20-10,13} - \frac{1}{25} = 0.027$$

M/M/S

$$P = \frac{\lambda}{S\mu} \rightarrow \text{rendimento}$$

M/M/S

$$W_{q3} = \frac{L_3}{\lambda_3} = \qquad L = \frac{1}{S!}\left(\frac{\lambda}{M}\right)^1 P_0 \frac{P}{(1-P)^2}$$

$$P_0 = \frac{1}{\sum_{n=0}^{S-1} \frac{1}{n!}\left(\frac{\lambda_3}{M_3}\right)^n + \frac{1}{S!}\left(\frac{\lambda_3}{M_3}\right)^S \frac{S \cdot M_3}{S \cdot \mu_3 - \lambda_3}} = 0.26$$

$$W_{q3} = \frac{0.14}{19.73} = 00683$$

$$W_q = 0,067 \cdot 0,004 + 0,67 \cdot 0.033 + 0.877 \cdot 0,00683 + 0.45 \cdot 0.027 = 0.04$$

(v_2, v_2, v_3, v_4)

$$W_q = 0.04$$