$$\chi(\Sigma) = 2 \cdot -4 + \nu + 2\,\#R - 4.$$

By the formula on P509,

$$\chi(\Sigma) = 2\chi(C_\lambda) + \sum_{\lambda_i} (\chi(C_{\lambda_i}) - \chi(C_\lambda)) - n$$

where C_λ is a generic one. C_{λ_i} singular
n self-intersection of C_λ.

$$\Rightarrow \chi(\Sigma) = 2 \cdot (-4) + \sum_{\pi(C_{\lambda_i}) \text{ tangent to } S} (\chi(C_{\lambda_i}) - \chi(C_\lambda))$$

$$+ \sum_{\pi(C_{\lambda_i}) \cap R \neq \phi} (\chi(C_{\lambda_i}) - \chi(C_\lambda)) - n$$

$$= 2 \cdot (-4) + \sum_{\text{tangent}} (-3 - (-4)) - n + \sum_{R} (-2 - (-4))$$

$$= 2 \cdot (-4) + \nu - n + 2\,\#R$$

Since $g(C_\lambda) = 3 = \dfrac{K_\Sigma \cdot C_\lambda + C_\lambda \cdot C_\lambda}{2} + 1$,

$$C_\lambda \cdot C_\lambda = n = 4.$$

$$\Rightarrow \chi(\Sigma) = -8 + \nu - 4 + 2\,\#R = -12 + \nu + 2\,\#R$$

But as we have seen the dual Kummer surface S^* is the dual surface to S, so that

$$\nu = \deg S^* = 4,$$