$$line: \hat{f}_{k+1}(\mathbf{x}_{k+1}) - \hat{f}_{k+1}^* \leq \sum_{k=0}^{2} \left(1 - \alpha\mu_f^*\right)^k \hat{f}_k^* \quad + \frac{\alpha}{c}\hat{f}_k^* + \eta^* +$$

$\text{norm}_s tr :$